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ABSTRACT

Five papers presented at a symposium during the 1991 annual conference of the National Council on Measurement in Education explore the design, development, and implementation of the Texas Master Teacher Examination (TMTE) Program. Educational policymakers have begun to maintain that the professionalization of teaching can be substantially supported through such means as the assessment of teachers for higher level credentials, as exemplified by the TMTE. The papers--all prefaced with the introductory title "The Texas Master Teacher Examination (TMTE)"--include: (1) "The Legal, Political, and Historical Basis" (M. Veselka, P. Tackett, and N. Wood); (2) "Test Design and Development Procedures" (W. P. Gorth, P. M. Nassif, and J. D. Mattar); (3) "Technical Characteristics" (S. M. Elliot, B. C. Appel, and E. J. Murphy); (4) "A Sustained Strategy for Preventing Potential Bias" (E. J. Murphy and S. M. Elliot); and (5) "Written Assignment Scoring Procedures" (S. L. Downs, B. F. de Hoyos, and M. B. Karlin). The TMTE preparation and registration manual for the 1990-91 administration is included. (SLD)

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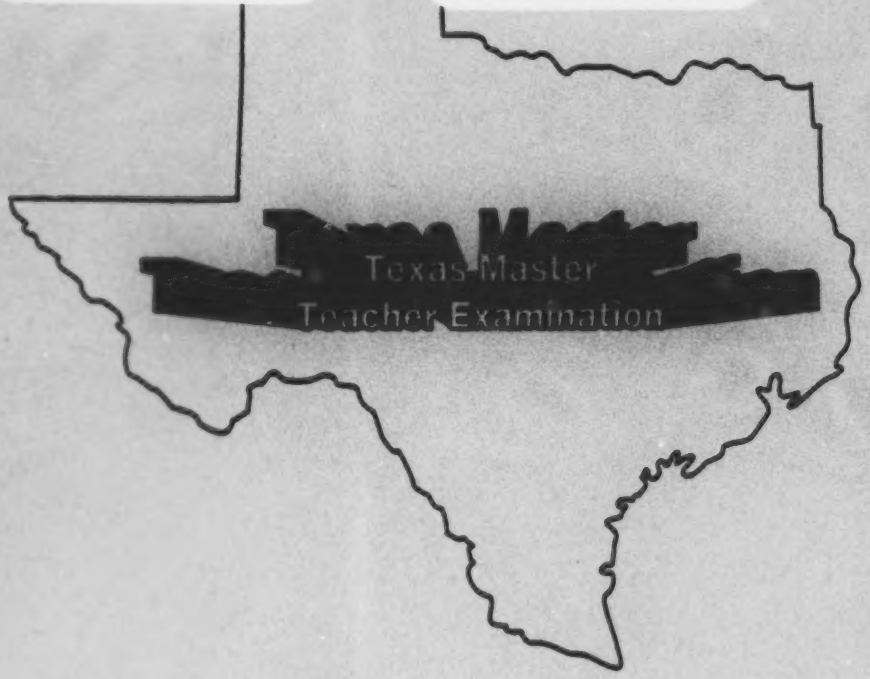

Symposium presented
at the
Annual Conference
of the
National Council on Measurement in Education

CHICAGO 1991

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PREFACE

The educational reform movement has focused on virtually every aspect of the educational process. Reformers' efforts have been aimed at a variety of issues such as the length of the school day and year, the nature and scope of the curriculum, and the role of the building principal. Significant attention has lately been focused on the classroom teacher.

The growing acknowledgment that the classroom teacher plays a central role in the education of children has served to underline the complexity of the teacher's responsibilities and the importance of ensuring that those who are entrusted with those responsibilities can perform them well. Thus the preparation and the assessment of teachers have come to engage significant attention from reformers. A focus on teacher assessment is of course not new, but one aspect of the assessment issue reflects a new theme. While much of teacher assessment of the 1980s centered on the assessment of entry-level teachers, recent efforts incorporate more noticeably the proposition that assessment must play an equally strong role later in the teacher's career. Policymakers have begun to maintain that the professionalization of teaching can be substantially supported through such means as the assessment of teachers for higher-level credentials. One effort to operationalize this proposition is the Texas Master Teacher Examination (TMTE™) program.

This collection of papers, presented at a symposium offered at the 1991 annual conference of the National Council on Measurement in Education, explores the design, development, and implementation of the TMTE. The Veselka, Tackett, and Wood paper describes the legal, political, and historical environment that gave rise to the program. The legislation calling for the program, the goals of the program, and the climate surrounding the program's implementation are discussed.

The second paper, by Gorth, Nassif, and Mattar, describes the design of the TMTE and the process used in developing the test. The unique features of this examination, including the use of written analysis questions, work samples, and educational management problems, are discussed by the authors.

The technical characteristics of the examination are highlighted in the third paper, by Elliot, Appel, and Murphy. Procedures employed in validating the examination and the reliability and performance characteristics of the assessment measures are discussed.

Eliminating potential bias is an important issue in any test development process. The Murphy and Elliot paper discusses the judgmental and statistical approaches to eliminating potential bias that were used in the TMTE.

The procedure for scoring the written assignments is the subject of the fifth and final paper in the symposium. Downs, De Hoyos, and Karlin describe the basis for scoring examinees' written responses to open-ended questions in 65 separate teaching areas.

The papers in this symposium are intended for a wide audience including test developers, test users, and policymakers. Both content and style are influenced by this focus on practitioners' interests. Those interested in further investigating the technical issues raised in these papers are encouraged to consult the references cited with each paper.

It is hoped that this collection of papers will assist others in developing advanced teacher assessment programs.

Scott M. Elliot
Executive Director of Testing Services, National Evaluation Systems
Symposium Organizer

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THE TEXAS MASTER TEACHER EXAMINATION (TMTE™)

The Legal, Political, and Historical Basis

Marvin Veselka
Pamela Tackett
Nolan Wood

Texas Education Agency
1701 North Congress Avenue
Austin, Texas 78701

April 1991

Paper presented at the 1991 annual meeting of the National Council on Measurement in Education

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THE TEXAS MASTER TEACHER EXAMINATION (TMTE)

The Legal, Political, and Historical Basis

Overview

A Nation at Risk, published by the National Commission on Excellence for the Department of Education in 1983, documented widespread educational problems and galvanized educators, businesspeople, and communities to rethink public education. Even before this report hit the news, however, Texas had already taken steps toward reform. A key focus of reform efforts, beginning in the early 1980s and continuing into the 1990s, was the preparation and assessment of teachers.

First, legislation restructured the process by which teacher education preparation programs were developed and approved. Renovations called for a new Commission on Standards for the Teaching Profession (governed by the State Board of Education) and mandated basic skills entry-level tests for admission into teacher education programs and certification tests at the completion of these programs. Other legislation (House Bill 246) mandated a state curriculum for Pre-K through twelfth grade.

Legislation to Improve the Quality of Teachers and Teaching

In order to boost reform efforts, Governor Mark White appointed a Select Committee on Public Education, chaired by H. Ross Perot, to investigate the quality of education in Texas. This group held forums across the state, reviewed information, and made recommendations to the legislature, which had convened in a special-called session in the summer of 1984. The resulting legislation (House Bill 72) called for major revisions in the elementary and secondary education programs. The legislation addressed additional state resources for education, equitable distribution of funds, and other methods for improving the quality of schools. Primary among these was improvement in the quality of teaching. The Select Committee had discovered in its investigation that no systematic evaluation of teachers existed either across the state or within districts, that some teachers performed poorly in the classroom, that teacher morale was low, and that too many students did not perform well on national tests.

House Bill 72 attempted to remedy some of these problems. A first step was a call for a systematic appraisal system of all teachers and, in conjunction with the appraisal system, a career ladder. These requirements resulted in the Texas Teacher Appraisal System (TTAS) and a four-level career ladder. Level four on this ladder is designated "master teacher," a level for which teachers are eligible following a minimum number of years of teaching, participation in a required amount of in-service, performance at a specified level on the TTAS, and success on a master teacher examination, which includes written, oral, and other assessments.

Another provision of this law established an interim State Board of Education composed of 15 members, appointed by the governor, to ensure that all of the mandates of this law were implemented. At the same time, the teachers' base salary was increased $5,500, from $11,000 to $16,500. The bill also included many accountability measures, such as the "no-pass/no-play" provision, under which students must attain a passing score of at least 70 in order to participate in extracurricular activities, as well as the Texas Educational Assessment of Minimum Skills (TEAMS) test at odd-numbered grades and as a graduation prerequisite. The bill called for high and rigorous standards in all of these areas in an attempt to upgrade the quality of education of our youth in Texas.

Because of these and other provisions, House Bill 72 was very controversial. Professional associations and local school districts resisted aspects of the bill because of its tendency toward centralization, because of the extensive changes in teacher preparation and assessment, and because of new requirements placed on students. Particularly controversial (and receiving significant publicity nationwide) was the Texas Examination of Current Administrators and Teachers (TECAT). All educators were required to pass this test in the spring of 1986 in order to be employed in the fall of 1986.

Despite frustration and persistent resistance, the appointed board worked diligently to maintain high and rigorous standards while maintaining some amount of satisfaction and morale among the teacher force. Implementation of House Bill 72 was complex because of the diversity of students and teachers, because of the large numbers of students (then about three million) and teachers (then about 185,000) affected, and because of the short timelines imposed by the legislature. For instance, the board and agency had only one year to develop the TTAS.

In the last biennial legislative session in 1989, the legislature made some revisions to the law regarding the career ladder and the master teacher assessment. It delayed for one year the implementation of level four of the career ladder and mandated that a master teacher examination be developed by the fall of 1990 so that teachers might be placed on that level at the end of that year. A setback occurred when, because of a technical error in legislation, the state supreme court declared unconstitutional a law that had attempted to modify the career ladder and the master teacher test. The Texas Education Agency was at this point developing the examination and had a difficult issue to face: how to convince teachers that there was a purpose for the examination, which at that point was almost completed.

Preparation for Development of a Master Teacher Examination

In May 1989 the Texas state legislature appropriated $750,000 that could be used for the development of the TMTE. The laws that required such an examination included several key issues that were central to the planning for test development. These included a requirement for satisfactory performance on the examination for entry to the master teacher level of the career ladder; State Board of Education adoption of the comprehensive written examination; promulgation of rules by the board for the active participation of classroom teachers in developing and administering the written examination; adoption by the board of passing standards for the examination; and adoption of the examination by the board no later than September 1, 1990.

With these requirements before the agency, planning began immediately following the end of the legislative session in 1989. The initial step taken was to call upon the four professional organizations in the state who represent teachers and to ask for their advice and for

identification of issues that should be considered during the planning stages. In June, representatives from the organizations met with agency staff. Even though an advisory committee designed to examine the role of the master teacher in the schools had been appointed and functioning for many months, no action had been taken toward defining what an examination should measure. The organization representatives felt it was important to recognize the work of this advisory committee and to incorporate the committee's definition of a master teacher into the framework for the test. The work of this committee had addressed not only the role of the master teacher, but a process for appraising the master teacher in the conduct of these duties, which could become eventually a part of the Texas Teacher Appraisal System. This advisory committee had developed the following definition of a master teacher.

> A master teacher is a professional who (1) exhibits a superior level of both subject matter and general knowledge and (2) consistently demonstrates effective teaching practices in the classroom at an exemplary level. The master teacher is able to analyze and communicate how various components of curricula and instruction are related, to base teaching on accepted practices and appropriate research, to maximize learning for all students, and to enhance students' interests and attitudes about life and learning.
>
> The master teacher is able to exhibit leadership at campus or district levels in curriculum instruction, professional development, communication, and student learning. The master teacher operates effectively with minimal supervision, is reflective and self-directed, and is capable of making and explaining professional judgments.

In June, at the meeting with members of the professional organizations, agency staff discussed the challenge posed by this examination. Several options for test development were offered to this group. These included options for both subject-matter tests and pedagogy tests. The options for subject-matter tests included the following.

1. Expand the ExCET (Texas's certification tests designed to measure entry-level skills and knowledge) subject-matter tests (54) with a subset of items that measure both advanced subject matter and additional subject matter by application of the knowledge (i.e., pedagogy).

2. Use the current ExCET subject-matter tests, setting higher passing standards.

3. Adopt nationally used tests (e.g., National Teacher Examination [NTE]), which do not necessarily represent all subjects.

4. Develop advanced subject-matter tests for each certificate or for each course or assignment that a teacher might hold. Items might require multiple-choice or open-ended responses, or both.

The options for a pedagogy test included the following.

1. Develop a single pedagogy test that requires the examinee to apply subject-matter knowledge.

2. Develop pedagogy tests for each certificate or assignment area.

3. Develop a test that primarily assesses the knowledge required for a master teacher to perform the role or duties that could be assigned based on the law.

The teacher organization representatives arrived at a consensus that content or subject area tests should not be used for identifying master teachers. Rather, they felt it was important that the board consider a pedagogy test that would require a teacher to use the knowledge of his or her subject matter and teaching methods in responding to the questions. The preliminary conclusion of the representatives was that knowledge of subject matter could be judged as a part of the performance appraisal and that in-depth knowledge of content did not indicate that a person was a skilled teacher.

In preparation for developing a request for proposals, the Texas Education Agency spent considerable time examining other educator assessment programs as well as specialization examinations used in other professions. A significant part of the research in the area of teacher assessment was being conducted by the Teacher Assessment Project at Stanford University under the direction of Dr. Lee Shulman, with support from the Carnegie Foundation. The work of this project was based upon the premise that "teaching is context specific"; that is, teachers are required to use their subject-matter knowledge in a variety of settings with a diversity of students. After reviewing many aspects of this work, the agency concluded that a master teacher examination should measure content knowledge in combination with knowledge necessary to teach in that discipline and pedagogy that was generally held to be generic to a teacher in any assignment. As a result of reviewing examinations in other professions, the agency recognized the potential for many different strategies or approaches to measure this knowledge and, consequently, left to those organizations who submitted proposals the task of identifying measurement strategies appropriate to these purposes.

The opinions of the professional organizations were discussed by the State Board of Education with an observation from them that the National Board for Professional Teaching Standards (NBPTS) was embarking on developing teacher assessment measures that should be considered for use in Texas in lieu of a master teacher examination. The board was informed of the timeline for development of the NBPTS assessments (completion of the first tests by 1993), which precluded their immediate use in Texas. In September, the agency took to the board a request for proposals for contracted services to support the development of a master teacher examination. This request called for development of an examination to measure the pedagogical knowledge of a teacher who is expected to perform at the highest level of the teaching profession. The instrument to be developed should include but should not be limited to measurement of general pedagogical knowledge. It should also include assessment of that knowledge in the context of a teacher's specific subject matter and level of assignment. Approaches or strategies for these measurement strategies must include teachers of all subjects taught in the Texas public schools at all grade levels and must assess the teacher's knowledge needed to perform duties that could be assigned to a teacher on the master teacher level of the career ladder.

Development of the Texas Master Teacher Examination

Three organizations responded to the request for proposals. The Texas Education Agency, through teacher professional organizations and other sources, identified 18 persons, including 12 public school teachers in different teaching assignments who were at that time on level three of the Texas career ladder, to review the proposals and recommend to the State Board of Education the organization to be awarded the contract for test development. Based on the recommendation of this panel, the board selected National Evaluation Systems, Inc. (NES®) to develop and administer the Texas Master Teacher Examination.

During the period that the agency was exploring the type of examination to be developed, the State Board of Education passed rules that required that in all aspects of test development 80 percent of the persons to be involved must be classroom teachers. This rule was adhered to throughout the development period, and in most cases, a greater proportion of the advisory groups were teachers. To support this requirement to involve teachers, the Texas Education Agency implemented several steps to identify exemplary Texas teachers to participate in the many roles that were necessary to develop a test. Nominations of teachers of the highest caliber were sought from many sources and a large database was formed, which finally included over 1,000 teachers with information that supported their stature in the teaching profession. From this initial group of teachers, more than 500 have been selected for service on advisory committees for test development, standard setting, and scoring the examinations. This ongoing process to identify teachers to be involved in implementing the testing programs will at some point in the future be phased out, and those teachers who have passed the examination will serve in these capacities.

Passing Standards for the Texas Master Teacher Examination

As stated earlier, one legislatively mandated role of the State Board of Education is to set the passing standards for the master teacher examination. The legislature directed the State Board of Education to set high and rigorous standards for the tests and stated that the career ladder mandated in law was in its implementation to be a pyramid rather than a ladder. During discussions with the legislative leadership, the board was informed that the maximum percentage of teachers who should be placed on level four of the career ladder should range from 5 to 10 percent. As a result, the board set a high standard for the TMTE, requiring that approximately 85 percent of the content of the test be mastered in order to pass.

Administration of the Texas Master Teacher Examination

The TMTE was first administered in November 1990. Had the standard initially approved by the board the previous September been applied, only 42 of 2,603, or 1.6 percent of test takers, would have passed the examination. As a result, professional teacher associations urged the board to modify the standard. In March 1991 the State Board of Education adjusted the passing standard so that 6 percent, or in the first administration, 155 teachers, passed the test. The board added that individuals could pass one portion of the test at a time, rather than having to pass both at the same sitting. Therefore, in addition to those who passed both portions, 539 teachers (20.7%) were notified that they had passed the multiple-choice section, and 68 teachers (2.6%) were notified that they had passed the written assignment section of the test.

The establishment of standards for the TMTE has not been without controversy. Board members have asserted that the board has an obligation to the public and the legislature to maintain test quality and rigorous standards for level four of the career ladder and the master teacher examination, even though this responsibility may at times conflict with the desires of some teachers. The debate between policy makers, the public, and the teaching profession will continue, but it is hoped that teachers will come to value the stature accorded those who pass the examination and that it will become more widely accepted within the profession.

THE TEXAS MASTER TEACHER EXAMINATION (TMTE™)

Test Design and Development Procedures

William P. Gorth
Paula M. Nassif
John D. Mattar

National Evaluation Systems, Inc.
30 Gatehouse Road
Amherst, Massachusetts 01104

April 1991

Paper presented at the 1991 annual meeting of the National Council on Measurement in Education

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THE TEXAS MASTER TEACHER EXAMINATION (TMTE)

Test Design and Development Procedures

BACKGROUND

Program Purpose

Among the purposes for the Texas Master Teacher Examination (TMTE) program was the desire to establish in Texas a uniform process and standard for recognition of teaching excellence and professional accomplishment. Key among any plans for improving the quality of education is the role of the classroom teacher. While there are a large number of factors that can affect the schools, the classroom teacher is the central element of any educational reform and improvement plan.

The Texas Master Teacher Examination is one component of the professionalization of teaching in Texas. A professional work environment can provide teachers the following.

- acknowledgment of their role in education
- career patterns and paths for their advancement
- encouragement for development and growth
- incentives for continuing participation in the profession

The master teacher concept in Texas is an attempt to recognize that qualitative differences in teaching expertise can develop through classroom experience and formal and informal learning. The principles of expert practice in instruction and classroom management, reflective consideration of effectiveness, ongoing learning in both formal and informal settings, and qualitative performance growth are central to the companion notions of the professional teacher and the master teacher. In addition, a substantial component of extraclassroom responsibility (including—potentially—mentoring or guiding other developing professionals, contributing to curriculum development and instructional improvement, and working with school administrators) was included in the Texas definition of the master teacher role; such extraclassroom activities are also frequently encountered in the definition of teacher professionalism.

The TMTE was designed to be dependent upon a substantive definition of the master teacher in Texas, which had been accomplished through the careful crafting of a set of research-based and practice-based master teacher competency statements. The competency statements were derived in part from recent research on teacher professionalism and in part from the input of practicing classroom teachers, particularly in Texas. The competency statements have been validated as appropriate for the TMTE program with substantial input from Texas educators. These statements, which have been made public to all examinees through a widely

disseminated *Texas Master Teacher Examination Preparation and Registration Manual*, were designed to form the basis of all assessment questions in the TMTE and of the scoring of the written assignments.

A consideration of the master teacher competencies yields an appreciation of their substance, their complexity, and their congruence with recent research on professional teaching. The image of the teacher that emerges from the competencies is of the same active, astute, concerned, flexible, reflective, and informed practitioner that has been emerging from the professionalism literature. The competencies are provided in the *TMTE Preparation and Registration Manual*, which is included as an Appendix to this paper.

MAJOR TEST DEVELOPMENT FEATURES

Three key features of the examination development process were the involvement of Texas educators, the consistent and continuing attention to bias prevention, and the customization of the Texas Master Teacher Examination to the needs and environment of Texas. These features are described below.

Texas Educator Participation

The involvement of Texas educators was central to each stage of the examination development process.

Advisory committees. The involvement of Texas educators included three groups established by the Texas Education Agency (TEA) to review and provide input on the examination materials. Four sets of review meetings were held throughout the development of the TMTE. These reviews provided involvement of Texas educators, consistent and continuing attention to bias prevention, and customization of the program to the needs and environment of Texas.

Bias Review Committee. The Bias Review Committee (BRC) included members representing various minority groups in Texas. The focus of the Bias Review Committee was on reviewing examination materials for potential bias and producing recommendations concerning bias prevention to be considered by the Content Advisory Committee and the TEA.

Content Advisory Committee. The focus of the Content Advisory Committee (CAC) was on reviewing examination materials for content validity, freedom from bias, and accuracy, and on considering and incorporating comments from the Bias Review Committee into final recommendations to the TEA.

The Bias Review Committee and the Content Advisory Committee met three times during the examination development process. The first set of meetings was held in January 1990; its purpose was to review the draft list of competencies defining the content of the examination and the assessment specifications. The second set of meetings was held in April 1990; its purpose was to review the Master Teacher Survey results and the draft assessment

questions. The third set of meetings was held in July 1990; its purpose was to review the pilot test results and to refine the content of the assessment questions for use in actual administrations of the TMTE.

Item Validation and Standard Setting Panel. A panel of Texas educators, independent from the BRC and the CAC, was convened in order to reaffirm the validity of assessment questions and to provide judgments to assist the state in setting the passing score for the examination. This panel met in August 1990.

Master Teacher Survey. In February and March 1990 approximately 2,000 Texas teachers and school administrators participated in a survey to establish the validity of the competencies proposed as a basis for examination content.

Pilot test. In May 1990 approximately 1,700 Texas teachers participated in a pilot test of assessment questions developed for the examination.

Pilot test scoring. In June 1990 approximately 65 Texas educators were involved in the scoring of written assignments that were pilot tested in May 1990.

Bias Prevention

The prevention of bias was addressed throughout the development of the TMTE. The following steps and reviews to prevent bias were included in the examination development process.

NES Equity Advisory Board. The NES Equity Advisory Board reviewed draft competencies and assessment specifications, draft assessment questions, the results of the Master Teacher Survey, and results of the pilot test. The focus of the Equity Advisory Board was on the prevention of potential bias. The Equity Advisory Board is composed of minority teachers, administrators, and university faculty trained in bias detection and equity issues.

Members of the Equity Advisory Board have been involved in development of the NES publication *Bias Concerns in Test Development.* That manual was used in this review and the manual itself was reviewed in light of the specific requirements of the TMTE.

Bias Review Committee. The Bias Review Committee established by the TEA was composed of minority Texas educators who reviewed competencies and assessment specifications, draft assessment questions, the results of the Master Teacher Survey, and the results of the pilot test. The focus of the Bias Review Committee was on the prevention of potential bias.

Content Advisory Committee. The Content Advisory Committee established by the TEA included minority educators. The committee reviewed the recommendations of the Bias Review Committee during its review of competencies and assessment specifications, draft assessment questions, the results of the Master Teacher Survey, and the results of the pilot test. In addition, during each of these reviews, the Content Advisory Committee used freedom from bias as one criterion for its review.

Master Teacher Survey. The educators surveyed included members of various minority groups. The results of the survey were analyzed in part to determine if there were significant differences among various groups in the ratings given to each competency. The results of the survey were reviewed by the Bias Review Committee and the Content Advisory Committee.

Pilot test. The educators participating in the pilot test included members of various minority groups. Minority educators were also included in the scoring of pilot test written responses. The results of the pilot test were analyzed in part to determine if there were any significant differences in item functioning among various groups. Pilot test results were reviewed for potential bias by the Bias Review Committee and the Content Advisory Committee.

Item validation and standard setting. The item validation and standard setting panel, established by the TEA, included members of various minority groups. Members of the panel used freedom from bias as one criterion for rating item validity. Panel members were instructed to rate an item not valid if they considered it to be potentially biased against any group of examinees.

Standard setting. In making recommendations to the State Board of Education concerning the passing standard, the TEA considered input from practicing educators as well as data on the relative impact of various cutscore options on different groups of examinees.

Customization

An important feature of the TMTE is that its design and content were customized to the needs and requirements of the state of Texas. The examination was designed to be responsive to the legislation and program policies that engendered it. Texas educators were directly involved in each stage in the development process. Policies relating to the development and implementation of the TMTE were designed and/or approved by the TEA, with input from Texas educators.

EXAMINATION DESIGN

Basis for Examination Content

The TMTE was designed to measure the knowledge and skills required of a master teacher in Texas. The sources used in defining the content to be assessed included the following.

- state rules and regulations pertaining to the definition of a master teacher, master teacher duties, and Texas Teacher Career Ladder level four entry and maintenance
- TEA Commissioner's Master Teacher Appraisal Advisory Committee definition of a master teacher
- the Texas Teacher Appraisal System
- the National Board for Professional Teaching Standards
- research literature on expertise in teaching

Examination Framework

The TMTE is a criterion-referenced test. The content of the examination is defined by an examination framework designed to serve three main functions.

- to clearly communicate to prospective examinees what content is covered on the examination
- to clearly communicate to examination developers what content is to be assessed and how that content is to be assessed
- to provide a context for interpreting examination results

The framework includes the following components.

- domains
- competencies
- contextual statements

Each of these components is described below.

Domains. The TMTE comprises two domains, Instruction and Professional Leadership. Each represents a major component of the definition of a master teacher in Texas. The relative size of each domain depends on the importance and breadth of content contained within it. The Instruction domain is organized into two subareas: Planning and Delivery, and Management and Assessment.

Competencies. Each domain is defined by a set of competencies. Each competency is a broad statement describing a significant aspect of the job of a master teacher in Texas. There are a total of 11 competencies; eight in the Instruction domain and three in Professional Leadership.

Contextual statements. Each competency is further defined and clarified by a contextual statement.

Item Types

The Texas Education Code (TEC § 13.316) stipulated that the TMTE be a written examination. A variety of assessment formats were developed for the TMTE in order to provide a range of measures of the competencies. Items are in two basic categories.

- Written Assignments
- Multiple-Choice Questions

Each of these is described below.

Written assignments. The written assignments developed were of three types.

Written Analysis. These assignments require examinees to describe, analyze, and/or evaluate relevant aspects of instruction and/or professional leadership in their assignment area and level.

Work-Sample Product. These assignments require examinees to produce a work-related product pertaining to instruction and/or professional leadership in their assignment area and level.

Educational Management Problem. These assignments require examinees to explain and justify how to manage a given situation or problem related to instruction and/or professional leadership.

Each written assignment item was designed to measure the competencies and to allow examinees to respond in their own assignment area and level, drawing on their professional knowledge and experience in education.

Multiple-Choice Questions. All multiple-choice questions were designed to measure a specified competency. Items were written to include common classroom and educational situations representing a range of grade levels and subject areas as context/setting but were designed to be content-independent in terms of any given examinee's ability to select the correct answer. These questions were written in three formats.

Four-Response Option. Items were based on descriptions of educational situations, simulated or actual samples of teacher materials or student materials, or professional readings. Some items were written as single questions. Others were clustered in groups of three or more to a single stimulus.

Multiple Correct Responses. Some items were written in a format requiring examinees to choose a set of responses rather than a single response. These items were linked to stimuli similar to those used for the four-response option questions (i.e., descriptions of educational situations, simulated or actual samples of teacher materials or student materials, or professional readings).

Latent-Image Questions. These were developed as educational management problems in a multiple-choice format. Questions were clustered in sets of three, each set of three questions linked to a given educational situation. Each set begins with a description of the situation. Each question asks for a specified number of recommendations or actions to be selected from the six response options provided. Latent-image technology was employed to provide examinees feedback on each option selected. The feedback (additional information, results of action) is hidden from the examinee until the option is chosen and the information is revealed with a special pen. The feedback revealed is then considered by the examinee in selecting options in subsequent items in each set of items.

Length of Examination

The length of the examination was established as one full day comprising eight hours of testing time. The length of the examination was designed to do the following.

- provide a valid and reliable decision regarding each examinee's knowledge and skills in relation to the definition of a master teacher in Texas as contained in the TMTE competencies

- provide a comprehensive measure of the range of the knowledge and skills required of a master teacher in Texas as defined by the TMTE competencies

Each form of the examination is designed to include 66 multiple-choice items and three written assignments.

Domain 1 (Instruction) includes eight of the 11 competencies, approximately three quarters of the competencies and the test. Domain 2 (Professional Leadership) includes three of the 11 competencies, approximately one quarter of the competencies and the test.

The three written assignments on each form represent one or more of the three types of assignments developed.

Scoring and Scaling

The Texas State Board of Education provided two possible routes for passing the TMTE. One route is compensatory, the other is disjunctive.

Scaling. The two sections of the examination are defined as the multiple-choice section and the written assignment section. The examinee score on each section is reported on a scale of 0 to 100, with the raw cutscore for each section set to 85 on the scale of 0 to 100, using a linear transformation. An examinee's total scaled score is the sum of the two section scaled scores, and ranges from 0 to 200.

Compensatory model. The total passing score in the compensatory scoring model is 170 on the scale of 0 to 200. An examinee's total scaled score is the sum of the two section scaled scores. In the compensatory model, any combination of section scaled scores totaling 170 or above represents a passing score for the examination as a whole.

Disjunctive model. An examinee may also pass a single section by achieving a section scaled score of 85 or above. Accordingly, in this disjunctive model, an examinee can pass one section at one administration and pass the other section at a subsequent administration.

EXAMINATION DEVELOPMENT PROCESS

Examination development activities began in the fall of 1989 and were completed in the fall of 1990. The development activities are summarized below.

Define the competencies to be measured. The process for defining what the examination should measure began with the establishment of a general examination framework to guide the initial and subsequent examination development activities. In the fall of 1989 the initial list of domains and competencies proposed as a basis for the examination was developed in accordance with the examination design framework and with the initial input of classroom teachers. Other sources were consulted in the preliminary examination definition process, including State Board of Education rules, the Texas Master Teacher Advisory Committee, teacher appraisals in other states, and research on teaching. The Content Advisory Committee (CAC) and Bias Review Committee (BRC) of Texas educators used this preliminary draft definition in constructing the final list of competencies to be assessed.

Develop assessment specifications. In December 1989 and January 1990 assessment specifications were written to provide guidance to the writers of the examination questions on what was to be covered on the examination and how questions should be written. Sources included those used in the development of the competencies, as well as examination formats and assessment methods used in professions other than teaching. The CAC and BRC reviewed and finalized the assessment specifications.

Conduct the Master Teacher Survey. In February and March 1990 a survey was conducted to establish that the list of competencies proposed as the basis for the examination represented the competencies that define the job of a master teacher in Texas. Texas teachers and school administrators participated in the survey. Each survey participant was asked to rate the importance of each competency. The results of the survey were presented to the members of the BRC and the CAC for review.

As a supplement to the survey, interviews with and observations of Texas teachers on level three of the career ladder were conducted in January and February 1990. The interviews and observations were conducted to determine if the proposed competencies were evidenced by superior teachers through direct contact with practicing teachers at level three of the Texas career ladder representing a range of schools, assignment areas, and grade levels.

Develop and review assessments. In the winter and spring of 1990 examination questions were developed to assess the domains and competencies defining the job of a master teacher in Texas. During development, items were reviewed by and piloted with experienced teachers. The CAC and the BRC reviewed and revised the draft questions in April 1990.

Conduct pilot test and review assessments. In May 1990 a pilot test of the examination questions was conducted with Texas teachers. The results of the pilot test were presented to the CAC and the BRC. Both groups used the pilot test results to review the examination questions and suggest revisions.

Conduct item validation and standard setting. In August 1990 an item validation and standard setting panel was convened. At this meeting, educators not previously involved in TMTE development activities met to independently review and revalidate the examination questions and to provide judgments that were considered by the state in establishing the passing score for the TMTE.

Summary

The TMTE uses a variety of assessment methods, including three types of written assignments, to assess the professional knowledge of experienced teachers in relation to a well-defined set of competencies. The written assignment portion of the examination is designed to assess teachers' professional knowledge as applied to their content area of expertise. The multiple-choice portion is designed to assess professional knowledge independent of a particular content area or grade level.

The examination was developed through a multistage process. A wide range of sources were employed, and experienced educators were involved at every step in the development process. Texas educators in particular played a central role throughout the development of the TMTE.

THE TEXAS MASTER TEACHER EXAMINATION (TMTE™)

Technical Characteristics

Scott M. Elliot
Barbara C. Appel
Edward J. Murphy

National Evaluation Systems, Inc.
30 Gatehouse Road
Amherst, Massachusetts 01004

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THE TEXAS MASTER TEACHER EXAMINATION (TMTE)

Technical Characteristics

Introduction

This paper addresses the technical characteristics of the Texas Master Teacher Examination. The first section of the paper discusses the validation of the TMTE. The reliability of the examination is the subject of the second section. The third section describes both item performance and overall test performance.

VALIDITY

Validity is a primary concern in any measurement effort. Validity has been recently defined as "an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment" (Messick, 1989). Making this judgment usually involves a process of accumulating evidence from a variety of sources in support of the inferences made (APA Standards, 1985).

In employment testing, the primary focus is on establishing that the assessment instrument measures the aspects of job performance that it purports to measure. Obtaining evidence in support of this construct may take several forms. Documentary evidence, expert judgment, and empirical data can be brought to bear to support the judgment of whether or not individuals are competent to perform the job.

TMTE Validation Approach

One of the primary concerns in designing the TMTE program was test validity. The test development process was designed to meet both legal requirements and professional standards (as reflected in the APA Standards, 1985, and relevant literature on validity). There are several key features to the validation approach designed for the TMTE program:

- validation procedures at each step in the test development process
- multiple sources of validity evidence
- consistency with Texas public policy
- empirical links to Texas educational practice
- use of advisory committees

These key features are described below.

Validation at Each Test Development Step

The validity literature (cf. Cronbach, 1971; APA Standards, 1985) emphasizes that validation is a process of accumulating evidence in support of a test rather than a single event occurring at one point in time. While many test development efforts rely on a single validation procedure (typically post hoc), the decision was made at the outset of the TMTE program to include validation procedures at each major step in the test development process. Steps to ensure validity were taken in defining the test domain, conducting the job analysis, and constructing items. Moreover, a separate, independent validation of test items was conducted after the pilot test of the items.

Multiple Sources of Evidence

To ensure the validity and defensibility of the TMTE tests, multiple sources of validity evidence were obtained throughout program development. The major sources were Texas public policy and Texas educational practice.

Texas public policy. As described in the Veselka, Tackett, and Wood (1991) paper in this volume, these policy statements were actively incorporated into the test development process in order to ensure that the test would be valid for the purpose for which it was intended. These policy statements were supplemented with additional documentation of the job, roles, and responsibilities of the master teacher provided by the Texas Education Agency (TEA).

Texas education practice. Both the EEOC Guidelines (1978) and the APA Standards (1985) address the need to establish an empirical link between the content of the job and the domain of the test. To ensure that the TMTE reflected educational practice in Texas, a systematic job analysis of practicing public school teachers at level three on the Texas career ladder was conducted. As a further source of information about educational practice in the state, school administrators responsible for supervising level three teachers were surveyed to verify the job-relatedness of the proposed test content.

Use of advisory committees. As a further measure to ensure that the TMTE reflected educational practice in Texas, the TEA convened an advisory committee composed of Texas educators at level three on the career ladder from several teaching fields at the elementary and secondary levels. The committee was responsible for reviewing materials at several points in the test development process. In addition to this Content Advisory Committee, a second committee composed of Texas educators familiar with bias issues was convened to review materials for potential bias at several steps in the test development process.

TMTE Validation Procedures

The test development process for the TMTE program consisted of several major steps as outlined in the Gorth, Nassif, and Mattar (1991) paper in this volume. The validation strategies undertaken at each major stage of the test development process are described below.

Domain Definition

Several validation measures were taken in defining the domain of content to be measured by the TMTE. These measures were designed to establish that the domain of content measured by the TMTE reflected the important content individuals should have to perform the job of a master teacher in Texas. Validation strategies included the use of state statutes as a basis for developing the competencies defining the test, a review of the literature in relevant areas, consultation with national experts familiar with teaching at the master teacher level, consultation with teachers identified as superior performers, and involvement of Texas teachers in the review of draft materials.

Review of state statutes and literature on effective teaching. The competencies defining the domain of content were based on the Texas legislation (HB 72) and State Board of Education rules (TEC § 13.316) that gave rise to the TMTE program. In addition to the mandates, State Board of Education rules related to master teacher duties and the career ladder were reviewed. To supplement these specific statutes, documentation related to the existing Texas Teacher Appraisal System (TTAS) and the report of the commissioner's Master Teacher Appraisal Advisory Committee were analyzed. These documents provided the foundation for the competencies. In addition, the competencies reflected a review of literature conducted in the areas of expert teaching, the master teacher concept, career ladders, and the characteristics of effective teaching.

Content experts. While these documentary sources provided the initial framework from which the competencies were derived, several content experts were involved in the early stages to establish that the competencies adequately reflected the job of a master teacher. First, a series of focus group meetings with local teachers and administrators recognized for leadership and teaching excellence was held to help identify the attributes of a master teacher. Similarly, a series of meetings and conversations with nationally recognized experts in the field was held to obtain further input regarding the appropriate content to include on the TMTE.

Texas teachers. The involvement of Texas teachers in the development of the assessment materials was a central component of the validation procedures for the TMTE program. Following the activities described above, the draft materials were presented to two separate Texas advisory committees for review. Both groups were provided with an orientation to the background and purpose of the program as well as orientation to the review task. As a further measure to familiarize committee members with the characteristics of expert and master teachers, several national experts familiar with these concepts made a series of presentations to the committee members before they conducted their reviews.

The Bias Review Committee, composed of approximately 25 public school educators familiar with bias issues in Texas, met first to review the draft competencies. The primary focus of their review was to identify and eliminate potential sources of bias relating to the language, content, or other potentially offensive elements in the draft materials. Moreover, the committee was asked to make sure that the domain of content adequately reflected the diversity of the population in Texas.

Following the review of materials by the Bias Review Committee, the Content Advisory Committee, composed of approximately 25 public school educators at level three of the career ladder, met to review the draft competencies. The Content Advisory Committee reviewed materials to determine if they were appropriately organized, complete, reflective of the job of a master teacher, significant, at the appropriate level, accurate, measurable, and free from bias.

Competencies correlation study. After the review meetings with Texas job incumbents, a competencies correlation study was conducted. This study was designed to verify that each of the proposed competencies was associated with one or more state statutes. The complete set of competencies was reviewed against the state statutes described above, and for each competency a determination was made whether the competency reflected one or more of the statutes. Each of the competencies was found to reflect at least one of the state statutes.

Job Analysis

Legal guidelines (EEOC, 1978) and professional standards (APA Standards, 1985) advise that a job analysis should be conducted for employment-related tests to establish that the domain of content assessed adequately represents the domain of the job. To obtain this validity evidence, a job analysis study was conducted for the TMTE. The job analysis study conducted for the TMTE involved a survey of Texas teachers at level three of the Texas career ladder and school building administrators who supervised level three teachers. This information was supplemented with a series of interviews and observations of level three teachers.

Teacher survey. A stratified random sample of 1,725 teachers at level three on the Texas career ladder was surveyed. The teacher population was stratified on the basis of assignment level (e.g., elementary, secondary), geographic region, and race/ethnicity. These strata were selected to ensure sufficient representation on these dimensions. Black and Hispanic teachers were oversampled to permit later comparison of survey results by race/ethnicity.

Administrator survey. A stratified random sample of 574 school building administrators was surveyed. The administrator population was stratified on the basis of race/ethnicity and geographic region. Black and Hispanic administrators were oversampled to permit later comparison of survey results by race/ethnicity.

Survey instrument design and distribution. Each survey consisted of general survey instructions, demographic questions, instructions for rating each competency, and the list of competencies to be rated. Respondents were asked to judge the importance of each competency to performing the job of a master teacher in Texas. They were asked to consider all aspects of the master teacher's job both within and outside the classroom, considering the master teacher duties outlined in State Board of Education rules. Respondents were asked to rate each competency on a five-point scale ranging from "of no importance" to "of very great importance" in response to the question "How important is this competency for performing the job of a master teacher in Texas?" Respondents were also provided an opportunity to make comments or identify any competencies they felt may have been missing from the list provided.

The surveys were mailed to school principals for distribution and were returned in a postage-paid envelope directly to NES for analysis. A follow-up letter and survey were sent to those individuals who had not yet responded approximately three weeks after the initial mailing.

Survey results. Eighty-eight percent (88%) of the public school teachers sampled responded to the survey, while 82% of the administrators responded to the survey. Each of the 11 competencies received a mean importance rating of 4.0 or higher on the five-point importance scale (results weighted to reflect the known population parameters). The overall importance rating (grand mean) for all 11 competencies for the teacher sample was 4.3; for the administrator sample the overall importance rating (grand mean) was 4.5.

Texas teacher review of results. The results of the survey were presented to both the Texas Bias Review Committee and the Texas Content Advisory Committee for consideration. Both groups recommended the inclusion of all 11 competencies in the TMTE program. The recommendation of the committees was considered by the Texas Education Agency and was presented to the Texas Board of Education; the board adopted the entire set of competencies as eligible for testing in the TMTE program.

Item Development

Both multiple-choice and written assignment measures were developed to measure the adopted competencies (see the Gorth et al., 1991, paper in this volume for a description of the item types). The primary goal of the item development effort was to produce items that were valid measures of the competencies reflecting the knowledge important to the performance of the master teacher's job in Texas. To achieve this goal, several sources of information about the master teacher's job were consulted, several reviews of materials were conducted, and the assessment measures were pilot tested.

Sources. The items were written to conform to the job as outlined in the Texas legislation (HB 72) and State Board of Education rules (TEC § 13.316) that gave rise to the TMTE program. In addition to these sources, State Board of Education rules related to master teacher duties and the career ladder were reviewed. To supplement these specific statutes, documentation related to the existing Texas Teacher Appraisal System (TTAS) and the report of the commissioner's Master Teacher Appraisal Advisory Committee were analyzed. These documents provided an initial basis for determining the appropriate direction for the items. Additional sources for item content included professional literature in the areas of expert teaching, the master teacher concept, career ladders, and the characteristics of effective teaching. This research basis was supplemented with information obtained from experienced practitioners through focus group meetings as well as the observations and interviews of Texas level three teachers.

Content expert reviews. After the initial drafts of the multiple-choice questions and written assignments were written, several content expert reviews were conducted to establish that the items reflected the job of a master teacher. First, local teachers and administrators recognized for leadership and teaching excellence were convened to review the draft materials. Second, nationally recognized experts in the field were asked to provide input on the draft items.

Texas teachers. Following the activities described above, the draft assessment measures were presented for review by the two separate Texas advisory committees described above. Both groups were oriented to the item review task and were then asked to independently review the draft items and to refamiliarize themselves with the list of competencies they had previously approved.

The Bias Review Committee met first to review the draft assessment measures. The primary focus of their review was to identify and eliminate potential sources of bias in the items relating to the language, content, stereotypes, or other potentially offensive elements. Moreover, the committee was asked to verify that the items adequately reflected the diversity of the population in Texas.

Following the review of materials by the Bias Review Committee, the Content Advisory Committee met to review the draft assessment measures. The Content Advisory Committee

reviewed materials to determine if they matched the competencies for which they were written, reflected the job of a master teacher, represented significant content, were written at the appropriate level, were accurate, and were free from bias.

Pilot test. Following the review of the assessment measures by the two Texas advisory committees, both the multiple-choice questions and the written assignments were pilot tested. Approximately 3,000 teachers on level three of the Texas career ladder were invited to participate in the pilot test. Participants were selected using a multistage, stratified sampling design, with teachers first clustered by district location and size then stratified based on assignment (e.g., Secondary Biology, Secondary English) and race/ethnicity. Each participant received 1 of 21 linked test forms composed of 23–24 multiple-choice items and one written assignment designed to be completed within a two and one-half hour testing session.

The written assignment questions were scored by Texas teachers (see the Downs, de Hoyos, and Karlin, 1991, paper in this volume for a description of the written assignment scoring process) and the multiple-choice questions were machine-scored. Overall, pilot test form statistics (mean, standard deviation, reliability, standard error of measurement [SEM]) and individual item statistics (p-value, item to form point biserial, response distribution, ability level by response choice) were computed to evaluate whether the items were performing appropriately. In addition, differential item functioning (DIF) analyses were conducted (see the Murphy and Elliot, 1991, paper on bias later in this volume). These results were presented to both the Bias Review Committee and the Content Advisory Committee for review. Following an orientation and training session focusing on the interpretation of test statistics, the committees were asked to again review the items in light of the pilot test results. The committees used the results to make final revisions (and deletions where appropriate) to the items.

Item Revalidation

While several measures to establish the validity of the items had been taken during the development and field testing of the TMTE assessment measures, an additional revalidation of the items was conducted to verify that the proposed assessments were appropriate for use on the TMTE. A panel of approximately 30 Texas public school educators on level three of the Texas career ladder was convened to conduct an independent review of the assessment questions.

Procedures. Each panel member was asked to independently rate the validity of each multiple-choice item and written assignment. Panel members were first provided with an orientation to the background and purpose of the program as well as an orientation to the review task. Following the orientation, the panel members were asked to review both the competencies defining the TMTE and the bank of items. Panel members were then asked to indicate whether each item was valid or not valid, applying the following criteria:

- Competency Match
- Accuracy
- Freedom from Bias
- Job Relatedness

If the item failed to meet one or more of the four criteria, the panel member was asked to rate the item as not valid. For any item rated as not valid, the individual was asked to provide comments describing the problem with the item and what could be done to correct the problem.

Results. For an item to be considered valid, 61% or more of the raters were required to rate the item valid. All items met the 61% criterion established. In fact, all items were rated valid by at least 69% of those rating the items. However, all comments provided by the raters were reviewed and, based upon this review, 20 items were deleted from the final item bank. The final bank of test items was presented to the State Board of Education for adoption.

Standard Setting

Standards were established by the Texas State Board of Education based on input provided by Texas teachers, consideration of the legislative mandate and State Board of Education rules providing for the TMTE program. Input was obtained from a panel of Texas teachers at level three on the Texas career ladder using the procedures recommended by Angoff (1971). The results of the standard setting meeting were considered along with the relevant statutes in establishing the minimum passing scores for the TMTE.

RELIABILITY

Reliability, which relates to the extent to which a measure consistently produces the same result under similar conditions (Nunnally, 1978), is a major concern with teacher assessment. Traditionally, reliability has been thought of as the internal consistency of a test or the stability of test scores across repeated administrations (test-retest reliability) and parallel forms of the test (equivalence). More recently, particularly in the area of certification, test developers have begun to examine reliability in terms of the dependability of classification decisions (e.g., pass-fail).

Classification decisions. A number of writers (Huynh, 1976; Berk, 1980) have suggested that the reliability of tests in situations where a dichotomous decision is made (e.g., pass-fail) should be evaluated with respect to the consistency with which those decisions are made. Estimates of the reliability of classification decisions fall primarily into two categories: 1) those reliability indices that provide an estimate of the consistency of mastery and nonmastery decisions based on a threshold loss function, and 2) those indices that focus on the consistency of criterion-referenced scores across the distribution, based on the squared error loss function. Essentially, the focus of the first approach is on the reliability of the *decision* made, while the focus of the second approach is on the reliability of *all scores* obtained on a criterion-referenced test. These approaches are reviewed in detail by Berk (1980) and others.

TMTE reliability. While both approaches provide information of interest in evaluating the reliability of a criterion-referenced test, estimating the reliability of the pass-fail decision (i.e., the decision at the passing score) is more often of concern for high-stakes certification tests. However, where both a compensatory and noncompensatory model of standard setting are used, as in the TMTE, both approaches are of interest. As described in the Gorth et al. (1991) paper in this volume, one can pass one section of the test independent of the other section or pass the entire TMTE by allowing performance in one section to compensate for

performance in the other section. The first case suggests an approach that estimates the reliability of the classification while the second case suggests a need to examine the reliability of all the scores, not just those at the cutscore.

Multiple-choice section reliability. The reliability of the classification decision for the multiple-choice section of the TMTE was estimated using the method suggested by Huynh (1976) for estimating P_0. This approach is a robust, though conservative, approach to estimating the reliability of classification decisions based on a single form/administration of the test. The Huynh estimate of P_0 for the TMTE was 0.74.

The reliability of all the scores with respect to the established cutscore was estimated using the Livingston (1972) reliability coefficient. While this approach has been criticized because of computational issues, Berk (1980) suggests that it is useful because with it one can estimate the reliability using a single form of the test and because the approach does handle a situation where scores beyond the cutscore are of interest. The coefficient of reliability estimated using Livingston's approach for the TMTE was 0.82.

Written assignment section reliability. While much attention has been focused on the reliability of criterion-referenced tests comprising dichotomously scored items, far less attention has been given to applying similar estimation techniques to polytomously scored items such as those included on the written assignment portion of the TMTE. The reliability of the written assignment section was computed using Cronbach's alpha (Cronbach, 1951). This technique was used to provide a lower bound estimate of the coefficient of precision for the written portion of the TMTE, using item response data from the single administration of the test. The reliability of the written portion of the test using this approach was 0.79.

ITEM AND TEST PERFORMANCE

Test and Item Characteristics

General description of the test. The first form of the TMTE, administered in November 1990, was composed of 66 multiple-choice questions and three written assignments. (A description of the types of multiple-choice items and written assignments included on the test is provided in the Gorth et al., 1991, paper in this volume.)

By design, the multiple-choice items included 55 scorable items (i.e., items that contributed to an examinee's final score) and 11 nonscorable items. All three written assignments were designated as scorable.

All of the scorable items selected to appear on the first form of the test had been previously piloted with a volunteer sample of eligible Texas educators. Only those items judged as appropriate by the TMTE content, bias, and item validation committees and the TEA based on considerations of content validity, potential bias, and item performance on the pilot test were eligible to be used as scorable on the test.

The selection of items to appear as scorable on the test was based on several criteria, as described below.

Multiple-choice items. For the multiple-choice part of the test, the scorable items were selected from the pool of eligible items on the basis of the following.

- Domain coverage—The scorable items were selected to provide proportional coverage of each of the two domains composing the test.
- Competency coverage—Five scorable items were selected for each of the 11 validated competencies to provide adequate coverage of each of the validated competencies.
- P-value—The scorable items were selected to achieve an estimated total test average p-value that approximated the estimated average p-value of the pool of items eligible for selection, in order to blueprint comparable test forms across administrations of the test.
- Item type—The scorable items were selected to include a variety of item types (e.g., multiple-correct response items, clustered items).
- Subject matter coverage—The scorable items were selected to include items that were set in educational contexts across a variety of subject areas.
- Grade level coverage—The scorable items were selected to include items that were set in educational contexts across a variety of grade levels.

Written assignments. For the written assignment part of the test, the scorable assignments were selected from the pool of eligible assignments on the basis of the following.

- Domain coverage—The scorable assignments were selected, as a group, to enable examinees to demonstrate their knowledge across the domains covered on the test.
- Competency coverage—The scorable assignments were selected, as a group, to enable examinees to demonstrate their knowledge across the competencies covered on the test.
- P-value—The scorable assignments were selected to represent the estimated range of difficulties of the pool of assignments eligible for selection, in order to blueprint comparable test forms across administrations of the test.
- Assignment type—The scorable assignments were selected to include a variety of assignment types (e.g., written analysis, educational management).
- Subject matter coverage—The scorable items were selected to allow examinees from teaching areas across subject areas to respond with specific examples and supporting detail.
- Grade level coverage—The scorable assignments were selected to allow examinees across grade levels to respond with specific examples and supporting detail.

By design, the TMTE test form included 11 nonscorable multiple-choice items in order to collect information on their performance. Items meeting the designated specifications for content, difficulty, and other technical characteristics will be eligible to be used as scorable on future forms of the test.

Description of the examinee population. Approximately 2,600 Texas teachers took the TMTE in November 1990. The examinee population for the first administration constituted

approximately 2.3% of the total number of teachers eligible to take the examination as of fall 1990. The demographic breakdown of the examinee population is as follows:

Examinee Population

Race		Sex		Assignment Level	
Black	5%	Female	89%	Elementary	45%
Hispanic	11%	Male	11%	Secondary	49%
White	81%			Special Education	6%

Test Characteristics

Multiple-choice items. A total of 55 of the multiple-choice items on the test were designated as scorable. The range of possible raw scores to be achieved was 0 to 55.

The mean raw score achieved was 39.53 (72%). The standard deviation was 5.73. The standard error of measurement was 3.07. The range of raw scores achieved was 14 to 53. Approximately 25% of the examinees achieved a raw score of 44 (80%) or higher.

Written assignments. The three written assignments on the test were designated as scorable. The range of possible scores to be achieved was 0 to 18 (0 to 6 on each of three assignments).

The mean score achieved was 9.66. The standard deviation was 3.39. The range of raw scores achieved was 0 to 18. Approximately 8% of the examinees achieved a score of 15 or higher.

Item Characteristics

To obtain an index of item difficulty, p-values were calculated for each of the multiple-choice items. The mean p-value for the 55 scorable items on the test was .72. The p-values ranged from .42 to .95.

Point-biserial correlations were calculated for the multiple-choice items included on the TMTE to examine the statistical performance of the TMTE. While the point-biserial correlation is a useful index for test construction, several measurement experts have urged caution regarding their use for criterion-referenced tests. For criterion-referenced tests, such as the TMTE, the content validity of the test (reflected by the content blueprint, which indicates the number of items needed to measure each element or competency in the domain) must remain the driving force in test construction. As described earlier in this paper, items were selected to meet the committee-approved content blueprint for test forms specifying the number of items for each competency and the distribution of item types and other domain characteristics across the form. Nevertheless, it is appropriate to consider point-biserial correlations in test construction regardless of the criterion-referenced nature of the test.

The item-to-total test point-biserial correlations for the TMTE ranged from .02 to .41, with nearly three quarters (71%) of the items exhibiting item-to-test correlations of .21 or higher. The TMTE covers a broad range of knowledge (the job of a master teacher), far broader than the domains typically encountered in large-scale assessments, which are often concentrated in a narrower skill area such as math basic skills or writing.

Popham (1978), among others, has discussed this issue in regard to criterion-referenced tests and has suggested that the individual item is more appropriately correlated to the specific element in the domain to which it was written. In the case of the TMTE the aspect of the domain of primary interest is the competency. The item-to-competency point-biserial correlations ranged from .24 to .63, with more than two-thirds of the items (69%) exhibiting correlations of .41 or higher.

Written assignments. The mean raw scores for each of the three written assignments were 3.33 for the written analysis assignment, 3.15 for the work-sample assignment, and 3.20 for the educational management problem assignment. The Pearson Correlation Coefficients for the scores on each assignment to the total score for all three assignments were .73, .70, and .71.

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A Sustained Strategy for Preventing Potential Bias

Edward J. Murphy
Scott M. Elliot

National Evaluation Systems, Inc.
30 Gatehouse Road
Amherst, Massachusetts 01004

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THE TEXAS MASTER TEACHER EXAMINATION (TMTE)

A Sustained Strategy for Preventing Potential Bias

INTRODUCTION

Combining Professional Judgments and Statistical Information

Ongoing efforts were made during TMTE program development to eliminate potential bias against groups of examinees on the basis of irrelevant factors or characteristics. These efforts focused on a combination of professional judgments about the appropriateness and freedom from bias of program materials and the gathering and interpretation of statistical information about differential item functioning. Professional judgments were applied at major review points throughout the process. Statistical data were produced through the pilot test of the draft test items that was conducted during the development of the program.

This combination of professional judgment and statistical analysis has been recommended as a desirable practice within the testing profession (Shepard, 1982). Reliance on both professional reviews and statistical information is considered appropriate for several reasons.

It has been suggested that the construct of bias is multidimensional (Berk, 1982) and that judgmental reviews and statistical methods of bias detection should complement each other. According to this view, each method may contribute its own separate strengths to the analysis of potential bias. Statistical analysis is strongest in detecting test items that produce larger than expected group differences in performance (Sandoval & Miille, 1980; Plake, 1980). Professional reviewers may focus on aspects of the bias construct (e.g., stereotyping) that it is highly desirable to eliminate from test materials but that might have either no negative effect on examinee performance or no locally detectable effect but only a more subtle, cumulative effect over an entire test or set of tests (Tittle, 1982).

The application of professional judgment is best conceptualized not as a separate activity from the gathering and interpretation of statistical information, but rather as an important accompaniment. Reviewer judgments are appropriate even after statistical information has targeted certain items as having produced performance differences. Typically, such items are not automatically purged from a test bank; instead, they are often submitted to reviewers for consideration. Such a strategy can reduce the danger of eliminating test items for which performance differences represent true knowledge differences and can also help minimize the risk of unbalancing a test blueprint in some areas of content (Burrill, 1982; Scheuneman, 1982; Shepard, Camilli, & Williams, 1985). In addition, a posteriori examination of items that have displayed performance differences can have heuristic value to reviewers who are interested in generalizing principles of item construction and review (Scheuneman, 1987; Scheuneman & Gerritz, 1990).

For these reasons, it was considered most appropriate for the TMTE to build into the program design for bias prevention the complementary application of a judgmental component and a

statistical analysis component. It should be noted that this paper will refer to the dimensions of the bias construct detected by reviewers as "potential bias" and the dimensions detected by statistical means as "differential item functioning."

Group Definitions

The groups of primary interest in the TMTE included groups distinguished by racial/ethnic background. For racial/ethnic comparisons, groups were defined either as Black, Hispanic, White, and Other (for the Master Teacher Survey) or as Black, Hispanic, and Other (for the pilot test).

JUDGMENTAL REVIEWS

Professional judgments intended to detect potential bias in the TMTE competency statements, assessment specifications, multiple-choice test items, and prompts for written assignments were gathered throughout the development of the program. For purposes of the program, an inclusive definition of the concept of potential bias was used, addressing not only the *presence* of potentially biasing content, language, and ideas but also the *absence* of positive portrayals of diversity (Tittle, 1982).

Review Criteria

The review criteria that were applied in judgmental reviews of the list of draft competencies and assessment specifications for the TMTE program, which are similar to the criteria used for other test materials, convey the inclusive definition of the bias concept that was used throughout the program.

Content. Does any element of the list [of competencies or assessment specifications] contain content that disadvantages a person because of his or her gender, race, nationality, ethnicity, religion, age, handicapping condition, or cultural, economic, or geographic background?

Language. Does the language used to describe any element of the list disadvantage a person because of his or her gender, race, nationality, ethnicity, religion, age, handicapping condition, or cultural, economic, or geographic background?

Offense. Is any element of the list presented in such a way as to offend a person because of his or her gender, race, nationality, ethnicity, religion, age, handicapping condition, or cultural, economic, or geographic background?

Stereotypes. Does any element of the list contain language or content that reflects a stereotypical view of a group based on gender, race, nationality, ethnicity, religion, age, handicapping condition, or cultural, economic, or geographic background?

Diversity. Does the list permit appropriate inclusion of content that reflects the diversity of the Texas population?

This approach to review criteria was designed to elicit more than attempts by reviewers to detect and remedy potential bias in the assessment materials. The goal was to assume an affirmative posture relative to the elimination of potential bias by ensuring that positive aspects of diversity were present in the materials as well.

Groups Reviewing Materials for Potential Bias

During the development of the program, several groups of individuals took part in reviews of test materials specifically for bias issues. Four review groups in particular had a substantial role in this effort. These groups are described more fully in the Gorth, Nassif, and Mattar (1991) paper in this volume; only their basic roles are presented here.

The NES Equity Advisory Board. The Equity Advisory Board is a standing group of educators from the area local to NES who have experience in dealing with issues relating to potential bias in educational programs and materials. For the TMTE, members of the Equity Advisory Board reviewed draft competencies and assessment specifications, draft items, the results of the Master Teacher Survey, and results of the pilot test. In addition, board members reviewed the *Bias Concerns in Test Development* manual for its appropriateness in light of the unique nature of the TMTE, suggesting revisions and additions particular to the TMTE.

The TMTE Bias Review Committee. The members of the Bias Review Committee were selected by the TEA for their sensitivity to potential bias issues. This committee reviewed competencies and assessment specifications, draft items, the results of the Master Teacher Survey, and the results of the pilot test.

The TMTE Content Advisory Committee. The Content Advisory Committee reviewed draft competencies and assessment specifications, draft items, the results of the Master Teacher Survey, and the results of the pilot test. This committee both independently reviewed materials for bias and reviewed the recommendations of the Bias Review Committee, whose review meetings had preceded its own.

The TMTE Item Validation and Standard Setting Panel. This panel was responsible for conducting individual reviews of test items, including, where available, pilot test statistics for individual items. An important criterion for their validity review was the freedom from potential bias of the test items.

SURVEY AND PILOT TEST SAMPLES

In two major development activities—the Master Teacher Survey and the TMTE pilot test—samples of Texas populations were involved. In both activities, efforts were made to reflect the ethnic/racial and geographic diversity of the Texas population in the samples that participated.

Master Teacher Survey

During February and March 1990 the Master Teacher Survey was conducted in Texas to obtain empirical information on the extent to which the competencies proposed as a basis for the TMTE were important to the job of a master teacher in Texas.

Two groups of Texas educators were identified by the TEA as eligible to participate in the Master Teacher Survey: 1) currently practicing and certified public school teachers on level three of the state's career ladder and 2) currently practicing public school administrators who were working with or had worked in the past year with level three teachers (i.e., school principals). The sampling procedures that were used to ensure a diverse sample for both groups are described below.

Public school teachers. From a TEA datafile of the population of Texas teachers on level three of the career ladder as of September 1989, a stratified random sample of public school teachers was drawn. The stratification variables were assignment level, geographic region, and race/ethnicity.

The population total of level three teachers on the TEA datafile was 24,170. The stratification design resulted in a sampling matrix of 160 cells. The number of teachers to be sampled in each cell of the sampling matrix was determined in two stages. In the first stage, the target per cell was set as proportional to the population size of each cell, based on an overall target sample size of 1,500, with a minimum sample size of one teacher for each cell in which there was one or more teachers in the population.

In the second stage, the preliminary number of Black and Hispanic teachers to be sampled in each cell was increased by approximately 50 percent. This was done to ensure adequate representation of minority educators in the survey. A total of 1,725 teachers was selected to receive a survey. The 1,725 teachers were randomly drawn by computer based on the sample size established for each of the cells.

Public school administrators. From a TEA datafile of the population of Texas principals on the campuses in which there were level three teachers as of September 1989, a stratified random sample of public school administrators was drawn. The stratification variables were geographic region and race/ethnicity.

The population total of eligible principals was 3,959. The stratification design resulted in a sampling matrix of 80 cells. The number of principals to be sampled in each cell of the sampling matrix was determined in two stages. In the first stage, the initial target was set as proportional to the population size of each cell, based on an overall target sample size of 500, with a minimum sample size of one principal for each cell in which there were one or more principals in the population.

In the second stage, the preliminary number of Black and Hispanic principals to be sampled was increased by approximately 50 percent. This was done to ensure adequate representation of minority principals in the survey. A total of 574 principals was selected to receive a survey. The 574 principals were randomly drawn by computer based on the sample size established for each of the cells.

Response Rates

Response rates were calculated as the number of eligible returns divided by the total number of surveys sent less the number of unused and ineligible returns. The response rate for teachers was 88 percent; the response rate for administrators was 82 percent.

Survey Data Analysis

Three types of reports were generated for both the teacher survey results and the administrator survey results: a demographic summary report, a rating report (which summarized the mean importance ratings of respondents for each competency), and a comparison report of mean importance ratings by demographic subgroup.

The analyses for the demographic summary reports were unweighted to describe the demographics of the respondent pool. The analyses for the rating report and the comparison report were statistically weighted to generate population parameter estimates that took into account oversampling and differential response rates by race/ethnicity.

Subgroup Comparisons

The comparison report for each survey (teachers and administrators) was designed to identify any competency for which the mean importance rating by a subgroup was less than 3.5 AND was significantly (.05 level) different from the mean importance rating of the total group minus the subgroup. Comparisons were not produced for any subgroup with a respondent size of less than 25.

None of the 11 competencies was identified, based on these criteria, for either the teacher sample or the administrator sample.

TMTE Pilot Test

The pilot test was the second major activity for the TMTE program that required the selection of a sample.

Sampling. Approximately 3,000 teachers currently at level three on the Texas career ladder were selected to be invited to participate in the pilot test. While 3,000 teachers were selected to be invited, participation in the pilot test was voluntary. The selection of the pilot test participants involved a multistage, stratified sampling design in order to obtain a reasonable distribution of teachers with respect to geographic region, district size and type, content area, grade level, and race/ethnicity. The procedure for selecting the pilot test participants is described below.

The first stage in the selection process was the identification by the TEA of approximately 11 areas across the state that generally represented the various geographic regions in the state.

The second stage involved the identification by the TEA of approximately ten school districts, of various types and sizes, within each of the 11 areas. District size was determined on the basis of the number of level three teachers working within each district. The number of level

three teachers working within the selected districts ranged from 1 to approximately 1,400. Types of districts selected included those serving rural, suburban, and urban areas.

The third stage in the selection process involved the identification of the population of teachers eligible for the pilot test within the selected districts. The eligible population of teachers for the pilot test consisted of teachers on level three of the career ladder (as of September 1989) who were listed on the TEA Roster of Personnel data tape of level three teachers for the selected districts and who were working in at least one assignment in one of the following eight content areas/grade levels, selected to represent a range of teaching assignments and levels (i.e., elementary and secondary).

- Early Childhood Education
- Elementary
- Secondary Music
- Secondary History
- Secondary Mathematics
- Secondary Biology
- Secondary English
- Generic Special Education

The fourth stage of the selection process was to stratify the eligible level three teachers by race/ethnicity (Black, Hispanic, and Other). The target breakdown of selected participants was approximately one third for each group. This breakdown represented oversampling of Black and Hispanic teachers in relation to their actual representation in the population of level three teachers. Oversampling was intended to ensure adequate participation of minority teachers and to facilitate differential item functioning analyses.

The final stage in the selection process was the random selection of eligible level three teachers across the selected districts. Approximately 1,000 Black, 1,000 Hispanic, and 1,000 Other teachers were selected. A total of 3,028 teachers was selected.

Following the selection of the teachers to be invited to participate in the pilot test, the superintendents of the selected districts were sent a notification letter describing the purpose for the pilot test and the parameters for teacher participation (e.g., schedule, sites). The districts were also sent a roster of the selected pilot test participants by school within the district. Each school was sent site and session information for its particular area site and a set of packets inviting the selected teachers to participate, as well as samples of all materials in the teacher invitation packets. The schools were responsible for distributing the invitations. NES monitored the number of teachers who returned registration forms and volunteered to participate.

The TEA sent each invited teacher an information packet further explaining the pilot test and giving sample TMTE questions.

Participants

The total number of pilot test participants was 1,742. Pilot test sign-in sheets were matched against the invitation file to identify any examinees who were not invited in the original sampling. Any examinee who was not invited was deleted from the pilot test files before final

scoring. Also deleted from the final database were examinees who indicated on their answer sheets "No" to the question "Are you currently a practicing certified teacher in Texas?"

The total number of examinees in the final scored database for multiple-choice questions was 1,672.

For the written assignments, blank responses and responses in assignment area other than the eight designated for scoring were not scored. The total number of written responses scored was 1,628.

Demographics. The answer sheets were scanned to produce a demographic profile listing the number and percent of examinees giving each possible response (including no response) to the demographic questions in each pilot test booklet. A demographic profile was created for all examinees included in the database and for each pilot test form. The profile for examinees is provided in the following table.

Pilot Test Participants

	Number	Percent
SEX		
— No response	7	0
— Male	137	8
— Female	1,528	91
TEXAS CAREER LADDER LEVEL		
— No response	16	1
— Level 1	2	0
— Level 2	14	1
— Level 3	1,640	98
YEARS TEACHING IN TEXAS		
— No response	14	1
— 1–5 Years	1	0
— 6–10 Years	237	14
— 11–20 Years	969	58
— 21 or More Years	451	27
RACIAL/ETHNIC STATUS		
— Black, Non-Hispanic	430	26
— Hispanic	562	34
— Other	680	41
ASSIGNMENT LEVEL		
— No response	6	0
— Pre K–K	210	13
— Elementary	849	51
— Secondary	505	30
— Other/All Level	102	6
ASSIGNMENT AREA		
— Early Childhood/Kindergarten	195	12
— Elementary	854	51
— Music	39	2

Pilot Test Participants (continued)

	Number	Percent
ASSIGNMENT AREA (continued)		
— History	68	4
— Mathematics	134	8
— Biology	59	4
— English	154	9
— Generic Special Education	125	7
— Other	44	3

STATISTICAL REVIEW PROCEDURES

In addition to the judgmental review groups and the sampling strategies described above, bias prevention was also facilitated by statistical procedures applied to the results of the pilot test of draft TMTE items. In each case of the application of statistical procedures, items were identified for further review by competent judges on the review panels; no item was deleted from the item bank on the sole basis of statistics.

Brief Survey of Statistical Methods Available

Since the early 1970s, a number of methods of detecting differential item functioning in test items have been proposed. The major methods are described here.

Transformed item difficulty. The transformed item difficulty (TID) approach associated with Angoff (Angoff & Ford, 1973) represents an attempt to deal statistically with the phenomenon of differential performance by examinee groups while accounting in some way for true ability differences among samples of examinees. In many current applications of the TID approach, a correction for the effect of the point-biserial correlation that was proposed by Shepard et al. (1985) is made.

As a DIF detection technique, TID is somewhat venerable but still useful as a device for identifying items for later judgmental review in situations where very small samples of examinees are involved. It is computationally straightforward and comparatively easy to explain to groups of reviewers (Hills, 1989). Moreover, in several comparisons with other DIF detection techniques, including chi-square and three-parameter IRT, TID correlated moderately highly with those techniques and overall performed well (Ironson & Subkoviak, 1979; Rudner, Getson, & Knight, 1980; Shepard, Camilli, & Averill, 1981; Subkoviak, Mack, Ironson, & Craig, 1984).

Chi-square approaches. Scheuneman (1979) proposed a method for detecting DIF that amounts to a computationally simple analog of IRT methods, focusing on the differences between observed and expected p-values for each group at several "ability levels" (i.e., obtained score intervals for the total test). In most practical cases, the differences can be treated as a chi-square distribution, and a significance test can be applied to the results. A

later correction was proposed (Baker, 1981; Shepard et al., 1981) in which "percent incorrect" figures (q-values) would be added to the calculations to prevent a violation of the distribution assumption.

Because of its simplicity and because it performed relatively well in the comparison studies cited above, chi-square has been frequently used for DIF detection. However, since the Mantel-Haenszel technique is logically the furthest extension of chi-square, this newer technique has largely supplanted Scheuneman's method.

IRT methods. Of all statistical methods of DIF detection, those based on item response theory, especially the three-parameter IRT model, are regarded as most theoretically sound (Lord, 1980; Ironson, 1982; Shepard, Camilli, & Williams, 1984; Marascuilo & Slaughter, 1981). This is the case because IRT expresses through the item characteristic curve (ICC) the relationship between examinee ability and the probability of answering an item correctly, which is a relationship of particular salience in examinations of the interactions between items and groups. The ICCs for individual items for two groups of examinees should match closely; if they do not, the interpretation is that equally able examinees in the reference and focal groups do not have equal chances of getting the item right, which may be considered a textbook definition of item bias.

Because of their theoretical advantages, IRT approaches are widely used where the relatively stringent sample size requirements for applying them (generally about 1,000 examinees in each comparison group) can be met.

Pseudo-IRT. Linn and Harnisch (1981) developed a method of DIF analysis that is similar in approach to IRT but less complicated to apply. This method, commonly referred to as *pseudo-IRT*, involves estimating IRT parameters by pooling all examinee data (reference and focal groups) in the sample. Then, examinees are divided into focal and reference groups and placed into scoring categories (e.g., quintiles, deciles), and the empirically established item parameters and examinee thetas are used to calculate an expected percent correct for each group at each scoring category on each item. Differences for groups on items are then obtained by subtracting predicted percents from observed percents (Green, Yen, & Burket, 1989).

The pseudo-IRT method has several advantages over true IRT approaches. First, it permits the use of standardized difference scores, for which a significance test can be developed. Furthermore, the weighting that is built into the method (by the distribution of estimated thetas) has the effect of giving more weight to locations of the scale where there are more observations and less weight where there are fewer. Third, the method can be targeted to calculate differences for particular regions of the theta scale (e.g., in the region of a cutscore on a criterion-referenced test). Fourth, pseudo-IRT requires only one run of LOGIST for the total group of examinees instead of one for each group. And last, the method tolerates smaller sample sizes (i.e., at least 300 for the focal group) than the forbidding 1,000 in each group generally required by IRT methods (Hills, 1989). However, even 300 examinees in the focal group is unattainable in many practical situations.

The Mantel-Haenszel method. Mantel-Haenszel (MH) is an old (1959) technique domestic to the field of biostatistics that was recently rediscovered and translated to a psychometric context (Holland & Thayer, 1988). Essentially an extension of chi-square methods, MH produces a common odds ratio that can be used to compare the performance of two or more groups on a test. As explained by Holland and Thayer, the common odds ratio

(alpha) is "the average factor by which the odds that a member of [the reference group] is correct on the studied item exceeds the corresponding odds for a comparable member of [the focal group]." (p. 135).

MH has attracted considerable interest among researchers and practitioners because of several positive characteristics. First, it can be used with smaller sample sizes than most other methods (minimums of 100 in each group, according to Hills, 1989). Second, it is distributed approximately as a chi-square with one degree of freedom, which gives it known distributional properties, a test of significance, and considerable power. Third, it is computationally simple, inexpensive to run, and noniterative. Most important, it has compared favorably with IRT techniques in recent studies (Thissen, Steinberg, & Wainer, 1988; Hambleton & Rogers, 1989).

Against these advantages is the fact that it is unable to detect nonuniform DIF (in which the ICCs of the focal and reference groups cross somewhere along the ability scale). However, methods of coping with even this limitation have been suggested (e.g., inspecting p-values at different points along the ability continuum [Hambleton & Rogers, 1989]).

MH thus retains great appeal as a DIF detection technique where sample sizes of at least 100 per group can be achieved.

Logistic regression. Another method of DIF detection that has recently attracted some attention is the logistic regression (LR) method, a further extension of the MH technique (Bennet, Rock, & Kaplan, 1987; Swaminathan & Rogers, 1990). LR entails predicting the probability that the reference and focal groups have of answering a given item correctly, conditioned on the observed abilities of the two groups on the total test. The probabilities of a correct response to a given item for both groups are then compared (by comparing the regression coefficients for the slopes and intercepts of the two regression curves). If the slopes are equal but the intercepts are not, the curves are parallel and uniform DIF may be present. If the slopes are not equal, nonuniform DIF may be present.

The advantages of the technique are that it comes complete with a test of significance for the differences in regression coefficients, that it can detect both uniform and nonuniform DIF, that it can work with reasonably small sample sizes (200 for each group, according to Hills, 1989), and that its statistical procedures, while complex, are known and readily available. Disadvantages include its complexity, its iterative nature, and its tendency to ring false alarms in areas of the ability curve where there are few cases (Hills, 1989).

Swaminathan and Rogers (1990) compared LR with MH on simulated data containing both uniform and nonuniform DIF. Results were promising: MH and LR were equally effective at detecting uniform DIF, and, while MH registered fewer false positives than LR, LR was notably more effective at detecting nonuniform DIF. Further examinations of this technique are warranted.

Summary. Several useful techniques for detecting DIF have been developed, especially over the last 20 years. The method of choice with large sample sizes is probably still a three-parameter IRT approach. However, recent work with the Mantel-Haenszel technique and the logistic regression method have yielded impressive results. Moreover, these methods have lowered the sample size threshold considerably (to 100 per group with MH and 200 per group with LR). In cases where focal group samples are lower than these limits, the older methods (TID or chi-square) may still be useful, especially where the goal is to indicate items that will be subjected to further judgmental review.

Methods Used in the TMTE

Because the TMTE item bank was divided into 21 test forms for the pilot test, sample sizes in both the reference and focal groups for each item were too small to permit IRT, MH, or LR techniques of DIF detection to be applied. Across the 21 pilot test forms, the mean number of Black examinees per form was 20 (i.e., total number of Black examinees divided by 21), the mean number of Hispanic examinees was 27, and the mean number of Other examinees was 32. In this situation, the transformed item difficulty method (Angoff, 1982; Angoff & Ford, 1973), with the correction for the effect of the point-biserial correlation proposed by Shepard, Camilli, and Williams (1985) was used for the analysis of multiple-choice items. This method was considered appropriate because of its applicability in small sample situations, its general performance characteristics (cited above), and the fact that it tends to be a conservative measure of DIF, in that its lack of a rigorous control for differences in true ability across groups can result in more items being identified for further review than with other methods. Since the TMTE process involved post-statistics reviews by three groups, the "overidentification" of items with potential DIF was regarded as a safeguard.

Multiple-choice items. Multiple-choice items were identified for review based on delta value differences between groups (Black-Other, Hispanic-Other). Identified items were submitted for review by the review groups described earlier in this paper: the NES Equity Advisory Board, the Bias Review Committee, and the Content Advisory Committee. The review committees considered each identified item and either revised it, deleted it, or left it unchanged.

Written assignments. For the written assignments, the choice of DIF analysis was influenced by several factors: many written assignments (a total of 21) were administered during the pilot test, the assignments were scored polytomously (seven possible score levels resulting from the summing of two independent scores on a four-point holistic scale), and relatively small numbers of examinees were administered each written assignment prompt (the mean examinee numbers per group reported above apply here). For these reasons, none of the statistical methods reviewed above was considered appropriate. Still, an effort to incorporate an analysis that would reflect principles of DIF analysis and that would potentially identify prompts for review based on differential performance by groups of examinees was deemed desirable. Accordingly, analysis of variance (ANOVA) techniques, which have been used for DIF analysis (Cleary & Hilton, 1968; Jensen, 1980) because they logically fit the DIF detection construct, were applied to identify for further review any significant interaction effects for written assignment prompt administered and examinee racial/ethnic status, across the total of prompts and examinees.

Using ANOVA techniques, differential item functioning would be suspected if a significant group X prompt interaction were found, where "groups" were the two-level variables Black-Other and Hispanic-Other, and "prompts" were particular written assignments.

Comparisons between Black and Other group means for each prompt yielded no significant interaction effects; that is, there was no significant difference in Black-Other performance within any prompt as compared with overall Black-Other performance.

Comparisons between Hispanic and Other group means for each prompt yielded no significant interaction effects; that is, there was no significant difference in Hispanic-Other performance within any prompt as compared with overall Hispanic-Other performance.

All prompts were reviewed by the review committees and were either revised, deleted, or left unchanged.

CONCLUSION

For a testing program of high importance, such as the Texas Master Teacher Examination, avoidance of bias is a major consideration in design and implementation. The sustained strategy that was applied in the TMTE, involving ongoing reviews of test materials, involvement of diverse groups in review activities and in the pilot test, and statistical analyses of results for groups within the population, was intended to meet the challenge of developing as fair and equitable a test as possible.

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THE TEXAS MASTER TEACHER EXAMINATION (TMTE™)

Written Assignment Scoring Procedures

Sharon L. Downs
Benjamin F. de Hoyos
Martin B. Karlin

National Evaluation Systems, Inc.
30 Gatehouse Road
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THE TEXAS MASTER TEACHER EXAMINATION (TMTE)

Written Assignment Scoring Procedures

Overview

The Gorth, Nassif, and Mattar (1991) paper and Elliot, Appel, and Murphy (1991) paper in this volume describe the development and characteristics of the written assignment portion of the TMTE. This paper describes the process of scoring the written assignments.

While there is a considerable body of knowledge supporting the scoring of written responses from the standpoint of writing quality, there is much less information concerning the evaluation of the content of written responses. NES® and the TEA decided to apply the knowledge derived from the writing assessment literature and adapt those techniques to the task of scoring the TMTE written assignment section. The key characteristics of the scoring system appear below.

- Each TMTE written assignment is scored on a four-point scale ranging from 0 to 3.
- A minimum of two readers score each paper. If their scores are discrepant by more than one point, a third reader scores the assignment.
- Each assignment is scored by readers who practice in the same content area as the examinee.
- The scoring process emphasizes the relationship of the examinee's written response to the TMTE competencies adopted by the state board.

Written Assignment Scoring Process

Test materials. For the written assignment section of the TMTE, examinees received a booklet containing instructions that detailed how to complete the written assignments and the assignments to which the written responses should be addressed. Three answer booklets were distributed to the examinees, one for each of the written assignments. Examinees were allowed up to three and one-half hours to complete the three written assignments, with an additional half-hour available upon request.

Scorers. Scorers were selected by the Texas Education Agency from among the pool of qualified educators in the state through a process that involved nominations by other professionals, the submission of application forms by potential scorers, and the consideration of applications by the TEA. After evaluating potential scorers' applications, the TEA invited selected applicants to score written responses in their fields of expertise.

Scorers were selected for each teaching area in which examinees had registered to take the test. There were 65 teaching areas defined: seven for elementary teachers, six for special

education teachers, and the remainder for secondary level teachers (see the *TMTE Preparation and Registration Manual* appended to this paper for list of specific teaching areas).

Scoring session. The number of scorers needed for scoring was dependent on the number of examinees registered for each teaching area. The most important consideration was that a minimum of three scorers per content area be invited to allow for three independent scores for each response, if necessary. A total of 202 scorers participated in the scoring of the TMTE responses in three separate scoring sessions.

Scoring scale. Each written response was rated on a scale from 0 (lowest) to 3 (highest). To arrive at a score on the 0 to 3 scale, the reader (scorer) was asked to evaluate the examinee's response in terms of the TMTE competencies as applied to the examinee's selected teaching area. The final score on each response was a score from 0 to 6, representing the sum of the scores from two different readers. The scores assigned by the two independent readers had to be identical or adjacent. If they differed by more than one point, the discrepancy was resolved by a third reading.

Description of TMTE Score Points

3— The "3" paper reflects exceptionally well the level of pedagogical knowledge described in the TMTE competencies. The paper effectively and completely addresses the assignment. The "3" paper clearly communicates an accurate understanding of content and presents well-reasoned rationales, explanations, or justifications of decisions or actions called for in the assignment. In general, the "3" paper reflects outstanding teaching quality and exhibits creativity in its approaches.

2— The "2" paper largely reflects the level of pedagogical knowledge described in the TMTE competencies. The paper directly addresses the assignment, although some details may be implied rather than stated. The "2" paper clearly communicates an accurate understanding of the issues raised in the assignment, though often at a general level. The paper presents adequate rationales, explanations, or justifications for decisions or actions called for in the assignment. In general, the "2" paper may reflect high quality teaching, but only begins to approach the full richness and complexity of the teaching job.

1— The "1" paper reflects to a moderate extent the level of pedagogical knowledge described in the TMTE competencies. The paper makes a clear attempt to address the assignment but does not do so fully. The "1" paper may contain little content, few specifics or details, and little reasoning, explanation, or justification for decisions or actions called for in the assignment. The paper may reflect good teaching quality and acceptable content, but it may exhibit a lack of depth.

0— The "0" paper reflects little or none of the level of pedagogical knowledge described in the TMTE competencies. The paper addresses the assignment either very inadequately, very little, or not at all. The "0" paper contains little or no rationale, explanation, or justification of decisions or actions called for in the assignment. It may also contain inaccurate content or inappropriate teaching strategies.

Written Assignment Scoring Preparation

Scoring session personnel. The written assignment scoring activities for the Texas Master Teacher Examination were coordinated by National Evaluation Systems, Inc. (NES) staff. Texas Education Agency staff described the purpose of the TMTE and its policies, while NES staff conducted the training and scoring sessions.

Rangefinder papers. Rangefinder papers, also referred to as "marker papers," are those papers that represent examples of examinee performance at each of the possible score points. Papers in the rangefinder set also illustrate various issues that must be considered during scoring.

Rangefinder papers are designed to provide for consistency across administrations of the TMTE. By using rangefinder papers, a given level of response can be assigned a similar score from one administration to the next, regardless of the particular written assignment used. In November 1990 a panel of Texas educators selected a set of rangefinder papers by using the following procedures.

- The TMTE scale and the competencies established for the program were reviewed and discussed by the committee.
- Each committee member reviewed a set of written responses and independently assigned a tentative score to each paper. Then the group discussed each paper to reach consensus on its score.
- After all papers had been scored, committee members selected the best examples of responses at each of the four score points for each of the three written assignments.
- The committee discussed the various selected training papers to reach group consensus on a final set of training papers. The set was selected to represent examples at each score point and a variety of content areas.
- A special subset of these papers was selected to represent the ongoing standard for the score points. This set, called the anchor set, can be used in future administrations of the TMTE to establish the calibration standard for scoring.

Teaching area. The written assignments required examinees to respond on the basis of their professional knowledge, judgment, and experience in the teaching area they indicated on their registration form. Examinees responded to all of the written assignments from the point of view of their teaching area. Therefore, for example, scorers who scored the "government" teaching area were directed to be sure that in scoring an assignment it exemplified the techniques and content knowledge of a government teacher rather than of a teacher of some other field, such as history. If the answer to any written assignment was clearly from the point of view of a teaching area other than the one a scorer was scoring, that assignment was scored "off topic" and received no credit.

Each scorer evaluated written responses on the basis of the teaching area for which he or she was selected, the overall pedagogical soundness of the response, and appropriate elements of the description of a master teacher contained in the list of master teacher competencies.

Scorer training. The goal of the training process was to develop an understanding of the program and the process of scoring and to calibrate the scorers to the TMTE score points. To

achieve calibration, scorers were trained to recognize and respond to the quality of the response provided. The written responses used in the training process were the marker papers described above. The first day of each scoring session was devoted to training.

During the training session, each scorer read and scored a copy of each marker paper. Scorers were polled regarding their assigned scores after each marker paper was presented so that the Scoring Director could monitor the performance of the group and engage in a discussion with scorers who appeared to differ significantly from the rest of the group. The polling also allowed each scorer to compare his or her performance with that of the group. As marker papers were scored and discussed, the Scoring Director pointed out the characteristics of each score point and reviewed the scoring method.

When scorers had achieved consensus regarding training paper score points, their scoring skills were formally evaluated through a calibration assessment involving a group of ten marker papers. Those scorers who successfully completed the calibration assessment began scoring examinee written responses. Others received additional training before being administered a second assessment. These individuals were required to pass the second assessment before they were permitted to score.

In addition to the training that occurred on the first day, recalibration sessions were conducted at the beginning of each subsequent scoring session. During these sessions, the scorers independently recorded their scores on a set of five additional marker papers. After this independent scoring session, the Scoring Director conducted a group discussion similar to the one in the original training session and provided individual retraining to scorers whose recalibration assessment indicated such a need.

Scorer Monitoring and Feedback

The following procedures were designed to maintain the quality of the scoring process by monitoring the performance of individual scorers and providing appropriate feedback.

- During the initial training session, scorers could compare their own assigned scores to those of other scorers and to the "true" scores (as determined by the Rangefinder Committee) presented by the Scoring Director.

- Calibration assessments were used to assess the degree to which scorers were scoring according to the "true" score scale before they were allowed to read examinee papers.

- Recalibration sessions were held periodically (at least twice a day) to reassess scorer performance and to provide scorers with supplementary training and feedback.

- After each packet of papers had been read by two scorers, the resulting scores were analyzed so that information about discrepant scores could be used by the Scoring Director and by individual scorers.

- Scorers received periodic reports concerning their scoring performance. A Scorer Performance Analysis sheet showed each scorer the number of papers scored and the distribution of scores he or she had given to those papers. The report also compared scores given by a particular scorer to the scores of others reading the same set of papers.

- The Scoring Director randomly reviewed papers scored by each scorer to provide ongoing performance monitoring.

- The Scoring Director conducted periodic review sessions on an as needed basis for individuals or groups of scorers.

Reliability of Scoring

There are a number of ways to evaluate the reliability of scoring. While it would be possible to compute a simple correlation between scores assigned by the first and second readers for each prompt, such a statistic can be flawed and misleading. First, consider the case in which the second readers on each essay (the "harsh" group) consistently assign scores exactly two points higher than the first readers (the "lenient" group). This would result in score pairs such as 0/2, 0/2, 1/3, 1/3, etc. The correlation would be perfect (1.0), but the agreement between the scorers would be 0%. Second, consider the arbitrariness of the order of assignment of papers to scorers. Suppose in the example above we now randomize whether papers are given to the "lenient" group or the "harsh" group of scorers first. Although the papers would still receive the same set of total scores, the ordered pairs would now consist of scores such as 0/2, 2/0, 1/3, 3/1, etc. Their resulting correlations would approach 0.

While it would be possible to perform an intraclass correlation, such as those used in twin studies, or to calculate a generalizability statistic, which attempts to characterize the percentage of variance accounted for by scorer differences, it is more straightforward to report a simpler statistic for the purpose of evaluating scorer performance in this case. A number of investigators (Stevenson, Avarett, & Vickers, 1990; Bunch & Littlefair, 1988; Chapman, 1984) report the percentage of agreement between the first two scorers. This more readily understandable statistic represents the percentage of papers on which the two readers had either identical or adjacent scores. Interrater agreement analyses were conducted on each of the three prompts. For Prompt A, the written analysis assignment, the percentage of agreement between the first two scorers was 90%. For Prompt B, the work-sample product, there was also a 90% agreement rate, and for Prompt C, the educational management problem, the figure was 92%.

Conclusion

Each of the more than 7,500 individual responses was routed to the proper sets of scorers, taking care that each scorer saw only papers from his or her own teaching field and did not see the same paper twice. Furthermore, each response was tracked through the scoring process to ensure that it wound up with a set of valid, resolved scores. The TMTE scoring sessions were very successful.

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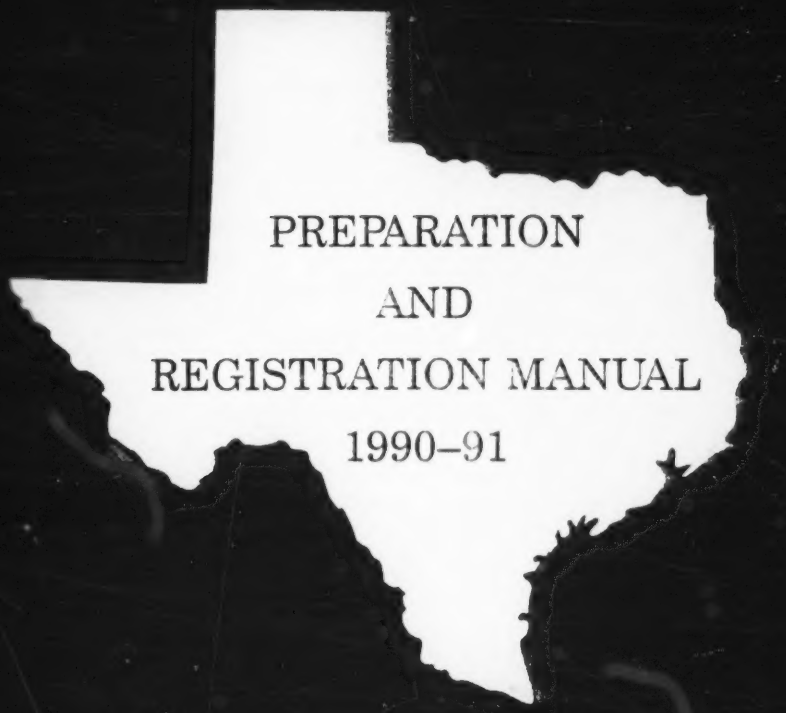
APPENDIX

Texas Master Teacher Examination™



PREPARATION AND REGISTRATION MANUAL 1990–91

ESSENTIAL INFORMATION

To take the TMTE™, you must:

- **REGISTER BY SEPTEMBER 21, 1990 FOR THE FIRST ADMINISTRATION (see page 30);**
- pay in advance (see page 34);
- arrive at the test center before 8:00 a.m. (see page 3);
- take a signed picture ID to the test center (see page 3);
- take your Admission Ticket to the test center (see page 35).

You are eligible to take the TMTE if you:

- possess a valid Texas teacher certificate;
- are teaching in a Texas public school classroom; and
- are on Level II (or higher) of the Texas Teacher Career Ladder.

BEST COPY AVAILABLE

The Texas Education Agency
National Evaluation Systems, Inc.

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INTRODUCTION

This manual provides information on preparing for the Texas Master Teacher Examination (TMTE™) and contains the instructions and forms you will need to register for the examination. To assist in your preparation, the manual describes the background of the TMTE program, the nature of the examination, and the conditions under which the examination will be administered. Also included are sample examination questions similar to those that may appear on the examination, together with annotated sample responses or explanations of the correct answers.

Background of the TMTE Program

The Texas Master Teacher Examination (TMTE) was developed as a result of legislation enacted in 1986. TEC §13.316 mandates that a written assessment be developed and administered through the Texas Education Agency (TEA). The examination is to be used as one criterion among several for determining whether teachers in Texas should be accorded master teacher status. Among the purposes for the examination program was the desire to establish in Texas a uniform process and standard for recognition of teaching excellence and professional accomplishment. Passing the TMTE is a requirement for advancement to level four of the Texas teacher career ladder.

Development of the Examination

The ongoing participation of Texas teachers has been central to each stage in the development of the TMTE. National Evaluation Systems, Inc. (NES®) was selected with the input of Texas teachers to develop and administer the examination. The general steps in the development process are described below.

Examination Content

The content of the TMTE is defined by a set of professional competencies developed by the TEA, committees of Texas educators, and NES, and adopted by the State Board of Education. The competencies describe the knowledge and skills of a master teacher that are to be assessed by the examination.

Sources

The following sources were used in developing the TMTE competencies.

State rules and regulations. The Texas Education Code (TEC) and the Texas Administrative Code (TAC) established the purpose of the examination.

Texas educators. Meetings and discussions were conducted with Texas educators and their professional organizations to gain insight into field-based perceptions of master teacher competencies.

TEA Commissioner's Master Teacher Appraisal Advisory Committee. This committee developed a working definition of a master teacher and delineated six characteristics of a master teacher and nine master teacher duties.

Texas Teacher Appraisal System (TTAS). The TTAS is currently used to assess teachers by means of classroom observations. The TTAS targets for appraisal 13 criteria in five domains.

Interviews and observations. The TEA and NES conducted interviews and classroom observations with career ladder level three teachers from a number of school districts in Texas. The classes observed ranged from pre-K to grade 12 and included a variety of subject areas.

National Board of Professional Teaching Standards. The Board's 1989 publication, *Toward High and Rigorous Standards for the Teaching Profession,* was reviewed for its research-based description of professional-level teachers. Other relevant research conducted by the National Board was also reviewed.

Research on teaching, classroom effectiveness, and teacher expertise. This body of research literature and findings was reviewed for its growing consensus on what constitutes excellent teaching.

TEA Advisory Committees

The TEA established two examination development advisory committees, each composed of approximately 25 level three teachers from throughout Texas. The Bias Review Committee was entrusted primarily with reviewing materials and advising on their content and approaches from the perspective of bias prevention. The Content Advisory Committee dealt mainly with issues of the appropriateness of materials and approaches from a content perspective, although it reviewed materials for bias as well. In addition to reviewing TMTE materials such as test questions, item performance data, and other products, the committees also served an advisory and input role with regard to policy decisions to be made by the State Board of Education.

Both committees included teachers reflecting the diversity of backgrounds in Texas and representing a variety of subject area assignments and grade levels. The advisory committees met three times during the examination development process.

Review of Draft Competencies and Examination Specifications

In early 1990 the Bias Review Committee and Content Advisory Committee met to review, revise, and approve the draft competencies that had been prepared by NES and the TEA and that were to define the content of the TMTE. At the same time, the committees reviewed, revised, and approved specifications for the examination and for assessment methods.

Validation Survey

The list of competencies approved by the advisory committees was included in a survey completed by approximately 1,500 level three teachers and approximately 500 principals throughout Texas. Teachers and principals were asked to rate the importance of each competency to the role of a master teacher in Texas. Both teachers and principals overwhelmingly approved each of the proposed competencies.

Review of Validation Survey Results and Draft Test Items

The Bias Review Committee and Content Advisory Committee met to review the results of the validation survey and to consider the set of competencies in light of those survey results. Both committees approved the complete set of competencies and recommended that they be submitted to the Commissioner of Education for approval by the State Board of Education.

At this survey review meeting, the advisory committees also reviewed, revised, and approved the draft examination questions that had been developed by NES and the TEA on the basis of the competencies and specifications.

Pilot Test

In spring 1990 the approved test items were pilot tested at sites throughout Texas. Over 1,700 career ladder level three teachers representing a variety of assignment areas and grade levels participated in the pilot test. Pilot test results were analyzed in terms of the psychometric characteristics of the questions. Results were also analyzed to determine if there were any questions showing differential performance among groups of examinees. Following the pilot test, career ladder level three teachers met to consider scoring procedures for the written assignment portion of the TMTE.

Pilot Test Results Review

The Bias Review Committee and Content Advisory Committee met to review the results of the pilot test and to make final revisions to the examination questions.

Item Validation and Standard Setting

After the questions were finalized, a new committee composed of 25 career ladder level three teachers met to affirm the validity of the approved questions and to provide input to the Commissioner of Education regarding standards (i.e., passing scores) for the examination.

Adoption by State Board of Education

Based on recommendations received from the Commissioner of Education, the State Board of Education adopted the TMTE competencies, approved the assessment questions and the criteria for eligibility to take the examination, and set a passing score for the TMTE.

DESCRIPTION OF THE TMTE

The purpose of this section is to help you prepare for the examination by providing information about the TMTE: its administration, its assessment questions, how the questions correspond to the approved TMTE competencies, and how the questions will be scored.

Test Administration

A Professional Experience

Test administration procedures have been designed to make the testing experience as professional and comfortable as possible within a framework of test security and standardization. Rules and requirements are designed to ensure consistency of testing conditions, fairness and consideration to examinees, and an atmosphere conducive to testing. The TEA and NES encourage you to send comments to us about any aspect of the testing conditions once you have taken the examination.

Testing Time

The TMTE is a professional examination that involves one full day of testing, from 8:00 A.M. to 5:30 P.M. The test is divided into two sessions, 8:00 A.M. to 12 noon and 1:30 P.M. to 5:30 P.M. An additional half-hour (to 6:00 P.M.) will be available to all examinees who wish to use it. During the break between the morning and afternoon sessions, examinees will be free to leave the test center for lunch.

Each session may contain examination questions of two main types, multiple-choice and written assignments. The entire test will comprise approximately 60 multiple-choice questions and three written assignments.

Because performance on the examination must be based on the full range of examination questions, you are required to attend the entire test administration; you will not be admitted for only the morning session or only the afternoon session. If you are absent from the morning session, you will NOT be permitted to attend the afternoon session. If you are absent from the afternoon session, you will be considered absent for the entire day and will receive NO score on the examination (and no refund or credit of any kind), even if you were present at the morning session.

You must arrive at the test center no later than 8:00 A.M. for the morning session, and you must return by 1:30 P.M. for the afternoon session. To avoid disruption of others taking the examination, examinees will not be admitted late to either of the test sessions; if you are late, you will be considered absent.

Because of the importance of punctuality, please be sure you know how to get to the test center and leave sufficient time for travel.

Testing Procedures

The beginning of each test session will be devoted to signing in examinees and reading test directions. During the examination, the test administrator and proctors will use procedures designed to maintain test security, minimize any disruption to examinees, and prevent any examinee from gaining an unfair advantage. Please help by cooperating with the test administrators' directions.

Test booklets and answer documents will be collected at the end of each session. You will NOT be permitted to work during the afternoon session on questions from the morning session, and, if you finish the morning session early, you will NOT be permitted to work ahead of time on questions from the afternoon session. However, within each session, you may work on the test questions in any order you choose.

Recording Answers

The TMTE contains both multiple-choice questions and written assignments that require a handwritten response in your own words. At each session you will be given a test booklet containing examination questions and an answer document for recording your answers to the questions. Scratch paper will be provided in the test booklets. However, please remember to record your final answers in the answer documents, not the test booklets. Test booklets are destroyed after the examination.

Your signature on your answer documents is needed for purposes of identification. Failure to sign may result in cancellation of your test score.

Personal Belongings

During testing, only pencils, erasers, test booklets, and answer documents will be allowed on your desk. You will not be permitted to take into the testing room such potential aids as calculators, calculator watches, dictionaries, slide rules, notebooks, textbooks, or written materials.

Dismissal from the Test

You may leave each session when you are finished with that session's test booklet. Before you leave, your test materials must be checked and collected by a test administrator. Once you have been dismissed, you may not reenter the test center during the testing session. The morning test session will officially end at 12 noon; the afternoon session will officially end at 5:30 P.M., although an additional half-hour (to 6:00 P.M.) will be available for examinees who wish to use it. At the end of each session, all test materials will be collected and all examinees will be dismissed.

Checklist: What to Take to the Test Center

You should take the following with you to the test center:

- your admission ticket (see page 35);
- several (at least four) No. 2 pencils with erasers (pencils will not be supplied at the test center);
- two pieces of official, signed identification, one with a recent photograph.

If you do not have proper identification, you will not be admitted to the test center.

Test Content

The basis of the TMTE is the list of eleven competencies that were developed by Texas educators, the TEA, and NES, and approved by the State Board of Education. Every assessment question is based on one or more of the approved TMTE competencies.

Every written assignment is designed to relate to the competencies. The competencies as defined embrace the attributes of a master teacher. Your responses to the written assignments should be based upon your depth of experience and your knowledge of the content you teach and the pedagogy you use to engage students in the learning process. You should demonstrate an understanding of how to appropriately integrate content, teaching techniques, and the learning environment in which you teach in order to maximize learning. Responses to each of the written assignments should relate to and be shaped by appropriate elements in the description of a master teacher contained in those competencies.

Multiple-choice questions will also relate to and assess knowledge pertaining to the competencies. You should respond to these questions from your knowledge of sound pedagogical practice and research as described in the competencies.

The list below presents the eleven competencies approved for the TMTE. Each competency is accompanied by an explanatory annotation. During the examination, you will receive a list of the competencies to use for reference.

Considering the competencies should be an important part of your preparation for the examination (see page 12).

THE TMTE COMPETENCIES (WITH ANNOTATIONS)

I. INSTRUCTION

A. Planning and Delivery

1. *Goals.* The master teacher establishes challenging and appropriate goals and expectations for both teacher and students, based on knowledge of content, pedagogy, learner characteristics, and district, state, and federal requirements.

   The master teacher understands the range of goals appropriate for a given situation and sets realistic but challenging goals for teacher and students. Goal setting is shaped by both the nature of the content and the characteristics of the students. The needs of all students are foremost in the teacher's mind when establishing goals; goals are designed to maximize learning for every student. Content considerations include the opportunities and limitations for student motivation and enthusiasm that the content and its delivery present. The master teacher, in applying practical experience to the definition of goals, is cognizant of environmental factors such as legal and regulatory requirements. Finally, the master teacher addresses the need to monitor and verify the achievement of the goals that have been set.

2. *Instructional content.* The master teacher organizes and delivers instructional content to form effective connections with students, based on practical experience and knowledge of content, pedagogy, learner characteristics, and district, state, and federal requirements.

   In planning instructional content, the master teacher selects the topics to be addressed, the sequence in which to address them, and related topics from other areas. The master teacher "transforms" the content into useful shape to link it with students' concepts, motivations, prior learning, and individual backgrounds. The master teacher takes into account those elements of content that may be problematic or particularly useful, likely preconceptions that will be encountered in students, and the particular characteristics (personal, cultural, and linguistic backgrounds, learning styles, content previously learned, assessment data, etc.) of the learners.

   The master teacher knows content thoroughly and in pedagogically useful ways. Knowledge of content combines with knowledge of pedagogy in such a way that the master teacher knows the structure of the content area and various ways to organize it. Content knowledge includes familiarity with and use of relationships within and between content areas. It also includes an understanding of the relationship between content and learning/instructional theory. Finally, the master teacher's knowledge of content encompasses a practical understanding of ways to connect content with the minds of learners. The master teacher has a number of conceptual frameworks for linking content to students' conceptual frameworks. The master teacher's representations of content (examples, analogies, metaphors, illustrations, etc.) reflect an understanding of both content and the varied ways in which students relate to content.

3. *Instructional approaches and resources.* The master teacher plans and uses a variety of instructional approaches and resources based on teaching philosophy, practical experience, current research, and knowledge of content, pedagogy, and learner characteristics.

In planning and delivering instruction, the master teacher has access to a range of strategies, theories, and philosophies that can be applied to particular content and used to motivate and inspire students. The decisions the master teacher makes are based on a well-articulated framework for teaching. Such a framework encompasses policy issues, legal constraints, environmental factors such as cultural or linguistic diversity, and the consideration of research and theory regarding human development, teaching, and learning. The master teacher applies that framework to a broad repertoire of materials and resources both within and outside the classroom (e.g., books, magazines, tools, instructional technology, software, places, persons). The master teacher selects, creates, or adapts these materials to bolster student motivation, support the content and strategies selected for instruction, and help individual learners achieve their instructional goals. The master teacher is able to make the most of the resources at hand, however limited, and is able to achieve maximum benefit for students.

4. *Flexibility.* The master teacher, in planning and delivering instruction, adapts to changing learner and environmental conditions.

The master teacher knows when and how to change direction and tactics in order to approach a topic in more effective ways. The master teacher recognizes, interprets, and acts on numerous cues (e.g., questions and answers, nonverbal messages, perfunctory rather than engaged participation) that signal the need to adapt the current approach or try a different approach. The master teacher actively and creatively examines and challenges educational practices not found to be helpful to students. The master teacher is willing to take risks and experiment with different approaches. Moreover, the master teacher is sensitive to differences among students, tailors instructional approaches, and uses a multiplicity of strategies.

5. *Diversity.* The master teacher knows and makes instructional use of the advantages of human diversity, understands learner characteristics and differences, and addresses diversity in such a way that individual differences become affirmative elements of learning.

The master teacher's awareness of diversity influences both content and interactions with students. In designing and delivering content, the master teacher expands students' awareness of and esteem for the diversity inherent in local, state, national, and world cultures. In interactions with students, the master teacher recognizes, celebrates, and respects student individuality and understands the educational implications and uses of such individuality. The master teacher models and expects appreciation for each student's unique endowments, cultural heritage, learning history, motivations, needs, and interests.

B. Management and Assessment

6. *Classroom management.* The master teacher ably manages classroom activities and assignments, organizes the environment, and establishes effective rules and procedures to support instruction.

The master teacher, regardless of individual management style, knows the types of management procedures to establish to make an active classroom purposeful and conducive to learning. Instructional time is allocated effectively; instructional activities—whether direct or indirect, individual or group, quiet or intentionally noisy—are conducted with purpose; and noninstructional duties are routinized and their disruption of learning minimized. Teacher-student exchanges, visitors, interruptions, independent work, group work, and other classroom business are handled in ways that facilitate learning.

The master teacher's class manifests a clear sense of goals, tasks, and roles. Students come to understand the reasons for each lesson or activity, the teacher's expectations for performance, and the need to take responsibility for their own learning. The master teacher assigns work clearly, making sure that all students understand assignments, and monitors or checks work performance consistently to seek opportunities for providing or receiving useful feedback. In addition, the master teacher documents performance with specific examples.

The master teacher builds a strong relationship with students that maximizes learning through trust, mutual respect, and open communication. The master teacher knows how and when to establish firm rules and explicit expectations for student behavior, when to restate the rules, when to relax or ignore them, and when to change them. The master teacher prevents most disruptions and deals consistently, effectively, and considerately with those that do arise. After a disruption, students quickly return to productive and motivated behavior.

The classroom environment, whatever its level of resources and financial support, is designed to engage students' interest in learning, with materials, activities, and physical space organized to help students achieve their goals.

7. ***Assessment.*** The master teacher regularly uses a variety of formal and informal assessment techniques to guide and modify instruction.

   Assessment as performed by a master teacher is a continuous source of feedback from learners. The master teacher knows how and when to use a variety of both formal and informal measures to assess student understanding, how to generate tentative hypotheses from assessment for confirmation or refutation after further assessment, and how to interpret assessment results to derive both learner information and instructional feedback. Moreover, the master teacher knows how to communicate assessment results effectively, responsibly, and sensitively to students, parents, guardians, and professional colleagues.

8. ***Self-Evaluation.*** The master teacher reflects on and evaluates instructional experiences over time, derives lessons from them, and applies those lessons to improve future instruction.

   Learning is an integral part of the master teacher's professional life; he or she actively and regularly evaluates teaching performance and the instructional program. Instructional exchanges, learner feedback, professional and nonprofessional reading, collegial interactions, and other daily events may ignite revelations that can be turned to the improvement of practice.

II. PROFESSIONAL LEADERSHIP

9. ***Communication.*** The master teacher fosters effective dialogue with families, other professionals, and community members to achieve educational goals.

   The master teacher is an effective communicator within the school and the community and between those two entities. Goals, plans, needs, problems, decisions, accomplishments, events, and assessment data are all communicated in such a way as to further instructional and school goals. The master teacher serves as an advocate for the student in the school and for the school in the community. He or she comprehends the goals and needs of the community and reflects them in instructional practice.

10. ***Development.*** The master teacher is actively engaged in personal and professional development, keeping abreast of events and changes (e.g., legal, regulatory, political, societal, professional, technological) that may affect the classroom, and fostering the professional development of teaching colleagues.

    The master teacher is aware of the importance of continuous personal and professional development and knows how to plan for and profit from learning opportunities. The master teacher knows and remains knowledgeable about state rules and policies, educational developments, research results, technological advances, legal and ethical issues, and other environmental developments that can affect the classroom, and makes such matters part of instructional planning and delivery. In addition, the master teacher supports the professional development of others through mentoring, modeling, or direct instructional assistance.

11. ***Instructional improvement.*** The master teacher promotes and supports the improvement of instructional efforts in the school.

    Providing instructional leadership is a hallmark of the master teacher role. The master teacher works with colleagues and administrators to improve the instructional program in the school. He or she contributes to school and district efforts to develop curriculum and to organize and improve instruction at several levels of the organization. Through professional knowledge, the master teacher is able to help fellow professionals define and organize curriculum content, resources, delivery systems, and organizational structures so as to facilitate learning.

How Are the Competencies Assessed on the TMTE?

The two basic types of assessment questions on the TMTE are multiple-choice questions and written assignments.

Multiple-Choice Questions

The examination contains approximately 60 multiple-choice questions designed to measure pedagogical knowledge according to the TMTE competencies. You will be expected to respond to the questions from your knowledge of sound pedagogical practice and research as described in the competencies. For questions that involve situations related to rules and regulations, responses should be consistent with state policy and law.

Multiple-choice questions may be related to an educational situation, sample, dialogue, or other stimulus. Although these stimuli may present situations that are set in specific grade levels and subject areas, the accompanying questions are designed to measure knowledge that is important regardless of grade level and subject area.

Latent-Image Multiple-Choice Questions

Some of the multiple-choice questions may be of a type called "latent-image question sets." In this type, an educational situation is presented through a series of related questions, and you are asked to select a specified number of responses to each question. Teaching is largely an iterative process in which teachers constantly assess situations, react to information, and then respond appropriately. Latent-image question sets are designed to simulate this process by presenting changing conditions, additional information, or a variety of other data (e.g., student responses or achievement data). By using a special pen to mark your answers to each question, you will uncover information on which to base your answers to the next question in the set.

Consider the example below, which is taken from a hypothetical test in government. (The content is NOT similar to TMTE content; only the general format is similar. Note also that latent-image ink is not used in this example.)

EXAMPLE OF A LATENT-IMAGE QUESTION

A group of U.S. citizens wishes to get a law passed at the federal level to prohibit the construction of billboards within 50 yards of a federal highway. Which two steps would be most appropriate for the citizens to take first?

101.	Submit their bill to the U.S. Senate for a vote.	101.
102.	Collect signatures from other citizens in the congressional district to show broad local support for the proposed bill.	102.
103.	Write a letter to the president of the United States.	103.
104.	Prepare petitions to get the proposed law included in referendums across the country.	104.
105.	Discuss their proposed bill with their congressional representative.	105.
106.	Petition a federal district court to rule on the legality of the proposed bill.	106.

In this example, as on the TMTE, a situation is described in the question, several response options are presented, and a specific number of responses is called for (in this case two). As examinees select the responses that they judge to be most appropriate, they uncover feedback by highlighting the feedback area for each selected response (the numbered boxes in the right column) with a special "latent image pen," starting from the upper left corner of the feedback box. As each feedback area is highlighted by the pen, a comment appears, which may provide information to help the examinee respond to the next part of the changing situation. Feedback comments are preceded and followed by brackets to indicate the length of the comment. Comments may vary in length, although the feedback boxes are uniform in size.

Responding to the latent-image question. Below, the examinee has correctly selected #102 and #105 and uncovered the corresponding feedback areas. The feedback that has appeared can be used by the examinee to help answer the next question in the set (which might concern the next steps in the process of getting the proposed bill signed into law).

CORRECT SELECTIONS MADE AND FEEDBACK UNCOVERED

101.	Submit their bill to the U.S. Senate for a vote.	101.	
102.	Collect signatures from other citizens in the congressional district to show broad local support for the proposed bill.	102.	[Many signatures collected.]
103.	Write a letter to the president of the United States.	103.	
104.	Prepare petitions to get the proposed law included in referendums across the country.	104.	
105.	Discuss their proposed bill with their congressional representative.	105.	[The representative agrees to sponsor the bill.]
106.	Petition a federal district court to rule on the legality of the proposed bill.	106.	

Examinees must NOT use the pen to reveal feedback that corresponds to response options that they are not selecting; if they reveal a feedback area, the response to which that area corresponds is considered to have been selected, and if it is not a correct response, the examinee is considered to have made an incorrect selection. There is no way to erase a revealed feedback area and response.

Incorrect responses on latent-image questions. In the example below, the examinee has incorrectly chosen #101 and #104, and has uncovered the ink in both feedback areas. Even if the examinee later realizes that #102 and #105 are better responses, the uncovered incorrect responses are still considered to have been selected. They cannot be covered again.

INCORRECT RESPONSES ON A LATENT-IMAGE QUESTION

101.	Submit their bill to the U.S. Senate for a vote.	101.	[Bill returned without action.]
102.	Collect signatures from other citizens in the congressional district to show broad local support for the proposed bill.	102.	
103.	Write a letter to the president of the United States.	103.	
104.	Prepare petitions to get the proposed law included in referendums across the country.	104.	[Petitions prepared.]
105.	Discuss their proposed bill with their congressional representative.	105.	
106.	Petition a federal district court to rule on the legality of the proposed bill.	106.	

IT IS ESSENTIAL THAT YOU CONSIDER YOUR SELECTIONS CAREFULLY BEFORE YOU USE THE SPECIAL PEN TO UNCOVER THE FEEDBACK AREAS. ONCE YOU UNCOVER A FEEDBACK AREA, THE CORRESPONDING RESPONSE OPTION IS CONSIDERED TO HAVE BEEN SELECTED.

Written Assignments

In addition to multiple-choice questions, the TMTE contains written assignments, which call for a response written in your own words. Each examination will contain approximately three written assignments.

Written assignments currently have three main forms, which are described below.

- *Written analysis.* Written analysis assignments will require examinees to describe, discuss, analyze, and/or evaluate relevant aspects of instruction and/or educational leadership in their assignment area and level, as indicated in their choice of teaching area when they register for the examination.

- ***Work-sample product.*** Work-sample product assignments will require examinees to produce a work-related product pertaining to instruction and/or educational leadership in their assignment area and level, as indicated in their choice of teaching area when they register for the examination.
- ***Educational management problem.*** Educational management problem assignments will require examinees to explain and justify their management of a given situation or problem related to instruction and/or educational leadership in their assignment area and level, as indicated in their choice of teaching area when they register for the examination.

In responding to the written assignments, you should focus on your knowledge, judgment, and experience as a teacher in your subject area and grade level as reflected IN THE TEACHING AREA YOU SELECT WHEN YOU REGISTER (see pages 33–34). For written assignments that involve situations related to school or district rules and regulations, your response should be consistent with state policy and law.

Focus on the Competencies

You will be expected to demonstrate overall pedagogical soundness in your responses to the written assignments and to reflect the level of professional knowledge described in the list of TMTE competencies. Your responses to each of the written assignments should relate to and be shaped by appropriate elements in the description of a master teacher contained in those competencies.

Teaching Area

The written assignments are designed to enable you to base your responses on your professional knowledge, judgment, and experience, especially in your particular assignment area and level, as indicated in the teaching area you select at the time you register for the examination. BE SURE TO RESPOND TO ALL OF THE WRITTEN ASSIGNMENTS FROM THE POINT OF VIEW OF THAT TEACHING AREA. For example, if you could have chosen both the "History" and the "Government" teaching areas and you selected "Government" when you registered, be sure to answer the written assignments as a government teacher, rather than as a history teacher. Your responses will be scored by government teachers. If you answered any written assignment from the point of view of a teaching area other than the one you selected when you registered, that assignment may be scored "off topic" and receive no credit.

Note that the requirement to respond from the point of view of your selected teaching area pertains only to the written assignments, not to the multiple-choice questions.

How Is the TMTE Scored?

Scoring the Multiple-Choice Questions

The multiple-choice questions are scored by machine; marking your answer document is simple and scoring is straightforward. Most of the multiple-choice questions present four response options, labeled A, B, C, and D. For such questions, mark your answer document by filling in a response bubble on the numbered row that corresponds to the question number.

Latent-Image Scoring

The latent-image type of multiple-choice question (see page 7), which you may encounter on the examination, is also machine-scored, but this type of question requires a different approach to marking answers than other multiple-choice questions. As you make your response choices for each question in the latent-image set (e.g., "Which two of the following actions should be taken next?") and uncover their feedback areas in the test booklet, you should also mark your answer document to record your choices. Since each question of this type offers six response options, you must mark whether you chose or did not choose EACH of the options.

Each response option will correspond to one number on your answer document. For example, the first group of six response options might be numbered 101 through 106. For each response you SELECTED, you will be asked to fill in the oval under "selected" in the corresponding numbered row; for each response you DID NOT SELECT, you will be asked to fill in the oval under "not selected" in the corresponding numbered row.

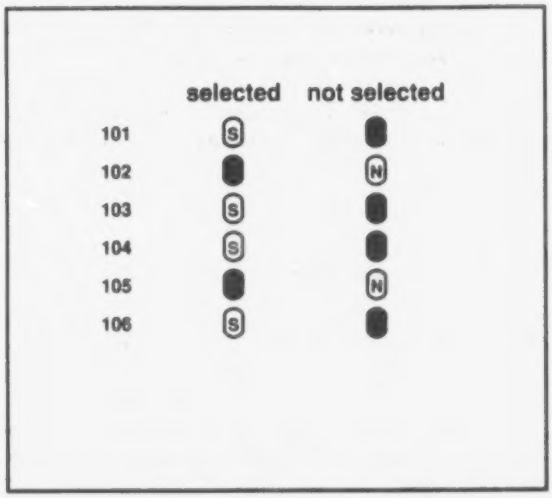
Your answer sheet, containing your 18 responses per latent-image set (three parts with six response options each), will be machine-scored. Each part will be counted as one question; therefore, each latent-image set, if it appears on the examination, will count as three questions.

See the box on the next page for an example of a correctly marked answer document for the hypothetical government question used as an example above (page 7).

CORRECT SELECTIONS MADE AND FEEDBACK UNCOVERED

101.	Submit their bill to the U.S. Senate for a vote.	101.	
102.	Collect signatures from other citizens in the congressional district to show broad local support for the proposed bill.	102.	[Many signatures collected.]
103.	Write a letter to the president of the United States.	103.	
104.	Prepare petitions to get the proposed law included in referendums across the country.	104.	
105.	Discuss their proposed bill with their congressional representative.	105.	[The representative agrees to sponsor the bill.]
106.	Petition a federal district court to rule on the legality of the proposed bill.	106.	

CORRECTLY COMPLETED ANSWER DOCUMENT



Note that EVERY numbered response option is marked either "selected" or "not selected." The correct responses (102 and 105) are marked "selected"; the incorrect responses (101, 103, 104, and 106) are marked "not selected."

For further information on how to complete the answer document for latent-image questions, and another example, see page 29 of this manual.

Scoring the Written Assignments

Your responses to the written assignments will be scored independently by two professional Texas public school educators who practice IN THE TEACHING AREA YOU SELECTED WHEN YOU REGISTERED FOR THE EXAMINATION.

Scorers receive comprehensive training before scoring to ensure that they will apply consistent and objective scoring standards and methods. Throughout the scoring process the scorers are monitored closely and are frequently retrained to ensure the quality of scoring.

Each scorer will evaluate your response on the basis of the teaching area you selected, the overall pedagogical soundness of the response, and the relationship between the response and appropriate elements of the description of a master teacher contained in the list of master teacher competencies. If the two scorers disagree substantially, their disagreement will be resolved before a score is assigned.

If you answered any written assignment from the point of view of a teaching area other than the one you designated when you registered, that assignment may be scored "off topic" and receive no credit.

PREPARING TO TAKE THE TMTE

This section contains suggestions for preparing to take the examination and for approaching the examination on the testing day.

The TMTE is a professional assessment of examinees' knowledge and experience. It was designed to be an authentic reflection of the knowledge and practice of the master teacher, as described in the approved list of master teacher competencies. If you have been engaging in sound professional practice, reflecting on and learning from your classroom experience, and keeping up with developments in education over time, you have been preparing for the TMTE throughout your career.

Before the Examination

Because the TMTE is a written examination, your preparation efforts should be focused on getting ready to transfer your knowledge and experience to written form in an examination setting. For this purpose, the following preparation activities are suggested.

1. ***Know what to expect.*** Read this manual thoroughly, taking special note of the list of competencies (pages 4–6), the description of the format of the test (pages 7–10), and the description of the test administration (pages 2–3).

2. ***Reflect.*** An essential part of your preparation should be reflection on your experiences as a teacher. Use the competencies to structure your reflection, working slowly through the list and recalling specific situations in which your past practice can be related to the content of the competency statement. Write down examples and ideas for each competency to serve as notes to prepare for the examination. You may wish to keep a journal of your classroom experiences, observations, and thoughts (especially as they relate to the competencies) before you take the examination.

3. ***Read.*** Find and read recent articles and books relating to educational issues that are of general concern and of specific concern in your field. Education is a field in which new developments occur rapidly; reading current professional literature is an important way to keep up with them.

4. ***Discuss.*** An excellent way to ensure that your ideas are activated and put into a shape that can be communicated is to form or join a discussion group to talk through the competencies and the other materials in this manual. Discussing experiences with other teachers is a useful and comfortable way to spark reflection and recall of specific instances and principles that may be of use on the examination.

5. ***Sample the examination.*** Administer the sample assessment questions (pages 14–20) to yourself under conditions as similar to actual testing conditions (page 3) as possible. While the samples are not intended to simulate an actual TMTE, they can be a useful mental preparation for thinking about your experiences and knowledge in an examination context.

6. ***Read the explanations.*** After you have "taken" the sample questions, carefully read the explanations of the answers (pages 22–29). Try to "grade" your responses to the samples. If you are working with a group, try to score each other's papers, providing specific feedback based on the explanations and the competencies.

The Day of the Examination

On the day of the examination, be sure to leave ample time to get to the examination site (latecomers will not be admitted) and to take the necessary documentation (admission ticket and two forms of official, signed identification, one with a recent photo) and pencils (at least four). The following suggestions may be helpful for the examination session.

1. *Prepare your state of mind.* Try to assume a reflective attitude, keeping in mind your recollections of your past practice and remaining confident that the examination will focus on your knowledge and experience as a teacher. Remember that probably the most important body of knowledge you will have to draw on is your own background.

2. *Prepare for a day of testing.* Both mentally and practically, prepare yourself for a full day of testing. Anticipate a substantial testing session involving careful thought and a good deal of writing, and arrange for your personal comfort as well as you can within the rules of the administration (see pages 30–31).

3. *Budget your time.* In each session, you will be able to allocate your time as you see fit among the various questions and question types, and (for the written assignments) among such response activities as prewriting and drafting, writing your responses in the answer document, and checking and editing your work. When you receive your test booklet, it is a good idea to page through it to see the types of questions you will encounter, and to budget your time according to the demands of the questions and your own strengths. Remember to leave time at the end of EACH session to check your work; you will not be able to check your morning work during the afternoon session.

4. *Exercise care.* At the test session, listen attentively to all test directions and read the directions in your test booklet and answer document thoroughly. Carefully read each assessment question before attempting to answer it. The questions reflect a professional level of practice; consider judiciously the information presented and requested in them as you respond.

5. *Focus your written assignment responses.* In responding to the written assignments, remember these points.

   (a) Read the instructions in each written assignment carefully and be sure to address in your response ALL PARTS OF THE ASSIGNMENT. Many written assignments contain several instructions and parts.

   (b) **Answer the written assignments from the point of view of the teaching area you selected when you registered.** The teaching area you selected will be indicated on your admission ticket, which you should take with you to the examination. If you answer any written assignment from the point of view of another teaching area, that assignment may be scored "off topic" and receive no credit.

   (c) The competencies as defined embrace the attributes of a master teacher. Your responses to the written assignments should be based upon your depth of experience and your knowledge of the content you teach and the pedagogy you use to engage students in the learning process. You should demonstrate an understanding of how to appropriately integrate content, teaching techniques, and the learning environment in which you teach in order to maximize learning.

   (d) For assignments that involve situations related to school or district rules and regulations, your response should be consistent with state policy and law. Your professional knowledge, judgment, and experience should form the basis of your response.

   (e) Communicate clearly. Although written responses will not be scored on the basis of technical or grammatical qualities, it is essential that you communicate your responses effectively.

6. *Apply general pedagogical knowledge to the multiple-choice questions.* For multiple-choice questions, you should respond from your knowledge of sound pedagogical practice and research as described in the competencies. Your selected teaching area need not be considered in responding to the multiple-choice questions, and your responses will not be scored with reference to your teaching area. For questions that involve situations related to rules and regulations, your responses should be consistent with state policy and law.

   Multiple-choice questions may be related to an educational situation, sample, dialogue, or other stimulus. Although these stimuli may present situations that are set in specific grade levels and subject areas, the accompanying questions are designed to measure knowledge that is important regardless of grade level and subject area.

SAMPLE ASSESSMENT QUESTIONS

In this section of the manual are presented sample assessment questions for your use in preparing for the examination. Several examples of multiple-choice questions are given, including one latent-image set (a type that may appear on the examination) at the end of the sample section. In addition, one example of each type of written assignment (written analysis, work-sample product, and educational management problem) is included.

These samples are intended to be illustrative of types of questions on the examination. They are not inclusive of all types of questions that you may encounter on the TMTE.

See page 12 of this manual for suggestions on how to use these sample questions in your preparation to take the TMTE.

Explanations of correct responses to the multiple-choice questions and examples of good responses (with explanations) to the written assignments are provided in the next section of this manual, pages 22–29.

Question 1.

In which of the following situations has the teacher taken effective steps to reduce the risks involved in using competition to motivate student learning?

I. A teacher divides her class into mixed-ability groups to teach basic multiplication facts. Working together, group members study the assigned multiplication facts during the week. Team scores at the end of the week are based on the team's average score on the Friday math test.

II. A teacher devises a new system to reward student performance on spelling tests. Points are awarded based on an individual's rate of improvement over his or her performance on previous spelling tests. When a student accumulates a specified number of points, he or she can choose from a previously determined set of reinforcers.

III. A teacher assigns five learning groups the task of writing a letter to the editor of the local newspaper about their recent study of a polluted lake in their town. All teams then read all five letters and rate them according to specified criteria. Each team then composes a new letter, using the best components from each of the five old letters.

IV. A teacher assigns students to mixed-ability teams to participate in a series of relay races using a variety of movements (e.g., running, hopping, walking backward) encompassing a wide array of motor skills. The teacher emphasizes that effort, not winning, is important.

A. I and III only

B. II and III only

C. II, III, and IV only

D. I, II, III, and IV

Use the information presented below to answer the three questions that follow.

Ms. Corelli is in her first year of teaching junior high school science. She had recently become discouraged by the difficulty of maintaining discipline in her classes, but she began to feel better when one of the more experienced teachers in her school told her that even veteran teachers still struggle at times with discipline issues. Ms. Corelli was especially pleased when this teacher lent her a book on classroom discipline that looked promising.

Ms. Corelli found the book, which presented eight different approaches to discipline, very interesting. However, when she tried to apply some of the book's ideas, she became confused. For example, when she was asking review questions in chemistry class today, many students called out answers and comments without raising their hands and being invited to speak. She felt paralyzed as the various theories and models she had read about whizzed through her head: Should I just ignore the misbehavior? Should I analyze what the students are trying to achieve by misbehaving? Should I try to identify the root causes of each student's misbehavior? Should I tell them "Don't speak unless you raise your hand and I call on you," or should I simply say "You are talking again without raising your hand." Should I invoke disciplinary measures, and what measures would be appropriate? Or should I just let students speak at will and get used to a noisier level of interaction?

It was clear to Ms. Corelli that the book had stimulated her intellectually, but it was equally clear to her that she did not know how to put what she had learned to good practice.

Question 2.

Ms. Corelli decided to discuss her dilemma with one of the more experienced teachers in her school. Which advice would be most helpful to Ms. Corelli?

A. The degree of discipline one expects from one's students, and how one enforces this expectation, are such highly personal and intuitive matters that it's better to develop and trust your own judgment than to read a lot of books or look to other people for answers.

B. Instead of reading about eight systems that were developed in response to students you don't even know, you would do better to talk to eight different teachers in this school and find out how they deal with classroom discipline.

C. Your best bet is to try all or most of the eight approaches one by one, systematically, giving each approach a couple of weeks either to work or not work for you, and then to adopt wholesale the one that worked best, rather than mixing and matching elements from incompatible systems.

D. Ask yourself which of the eight systems is built on assumptions about people that resemble your own assumptions, and which set of recommended teacher behaviors feels intuitively most comfortable to you; then give that particular system a fair try, adapting it as necessary, but without violating its basic tenets or your personal style.

Question 3.

When the more experienced teacher heard Ms. Corelli describe her distress at being unable to control her students, that teacher's most appropriate first response would be to point out the importance of:

A. cultivating a friendly, open relationship with students.

B. establishing clear rules and specific consequences for violating them.

C. maintaining a flexible attitude toward student misbehavior.

D. modeling respectful and cooperative behavior for the students.

Question 4.

After reflecting on her experience, her reading, and the advice she had received, Ms. Corelli determined that, whatever other classroom procedures she established, she wanted her students to raise their hands and be recognized before speaking. For the last two weeks, Ms. Corelli's students were complying with her rule without apparent discomfort, but today something happened that discouraged her. While she was introducing a new lesson, Ms. Corelli posed a question that involved a particularly difficult, puzzling phenomenon and that required a very creative approach to reach an answer. The class was silent; some students had clearly given up trying to find a solution and others were still thinking about the problem. Suddenly Janice, usually a quiet and shy student, blurted out the answer. Ms. Corelli was delighted one second and distressed the next—Janice had successfully solved a very difficult problem, but she had violated one of Ms. Corelli's rules. Ms. Corelli found herself paralyzed once more and did nothing. In this situation, it would have been best for Ms. Corelli to:

A. praise Janice for her good work and ignore this particular violation of the speaking-out rule.

B. first remind Janice that she had violated the speaking-out rule, then praise her for her good work.

C. first praise Janice for her good work, then remind her that she had violated the speaking-out rule.

D. praise Janice for her good work, then speak to her after class about her violation of the speaking-out rule.

Question 5.

Students often bring to class ideas and frameworks concerning particular content topics (e.g., the division of fractions). In some cases, such preconceptions are inaccurate, making student learning more difficult than it would otherwise be. One aspect of instruction involves anticipation of and planning for such inaccurate student preconceptions.

Choose an important topic from your assignment area and level that typically reveals several student misconceptions. The topic you choose should be one that would be covered over a one- to three-week period. Write an analysis that describes and explains two significant misconceptions related to this topic, their effects on student learning, and ways they can be addressed in instructional planning and delivery. Discuss how content, teaching strategies, or resources can be selected and used to help students overcome their misconceptions. You may use specific examples and details from your own experience.

Question 6.

Prepare an assignment for students for an instructional period in your assignment area and level. You should specify the learning outcomes intended and include criteria for determining student mastery of the tasks and learning objectives involved. Be sure to describe fully each step of the activity and any materials needed for it. The assignment should be designed to involve students directly in the learning process and should take into account the following information.

Learner characteristics: Most students in the class have demonstrated less interest in this topic than in other topics. Students have previously performed at or above mastery level for most topics to date.

Previous history: Students failed to complete satisfactorily the previous day's assignment on this topic.

Learning environment: It is the middle of the second semester.

Question 7.

Part I

A student in one of your classes has been losing interest in lessons and disrupting the class. This student has been interested in learning up to this point, has performed well, and has no history of inappropriate behavior. The student's attitude has become hostile and the disruptions severe.

Describe what steps you would take to address the problem. Take your response to the point of applying an initial solution to the problem, stating whatever assumptions you made to reach that solution.

Part II

Your response was effective in changing the student's behavior, but the student's parent has called the principal to express concerns about your actions in this case. The principal asks you to justify your actions. Describe what you would tell the principal.

Question Set 8.

The following three questions (labeled A, B, and C) are parts of a three-question latent-image set. (For a description of this question type, see pages 7–9.) Each part contains six response options. To the right of each numbered response option (1–18) is a box which would, on an actual test, contain invisible feedback corresponding to each response option.

On an actual test, you would choose the specified number of response options for each part and then use a special pen to uncover the feedback for those options. However, in this manual, no feedback can be uncovered in the feedback boxes. The feedback that would appear is instead listed, in appropriately numbered boxes, on page 21, immediately following the questions.

A teacher has just begun a seventh-grade class and is reviewing material presented earlier in the week. This teacher establishes clear expectations for student behavior and believes that students at this age need to assume full responsibility for the consequences of their behavior. The teacher also believes that discipline should not be arbitrary or harsh and that students need to understand the reasons that certain behavior is unacceptable.

For review lessons of this sort, the teacher's established expectations are that students will be quiet and attentive. At the beginning of the lesson, all students are responding well to teacher direction and attending to task, except two. A boy and a girl start laughing and playfully pushing each other. The teacher notices that the girl seems to be the more active participant in the disruptive behavior.

A. Which two of the following factors would be most important for the teacher to consider in responding to this situation?

1. the current family situation of the boy	1.	
2. the current family situation of the girl	2.	
3. the boy's past behavior in this class	3.	
4. the girl's past behavior in this class	4.	
5. the boy's overall academic performance	5.	
6. the girl's overall academic performance	6.	

B. There is a good deal of material to cover and the teacher wants to end this disruption quickly and continue the lesson. Which three of the following responses would be most appropriate?

7.	threaten to send both students to the principal's office	7.
8.	tell one of the students to move to a seat on the other side of the room	8.
9.	tell both students to be quiet, explaining the need for the class to cover material	9.
10.	tell both students that points will be deducted from next test grade if they do not settle down	10.
11.	tell both students to stay after class	11.
12.	take steps to involve both students directly in the lesson	12.

C. The disruption stops and the class proceeds without interruption for 15 minutes. Then, the same two students begin laughing and teasing each other again. At this point, which two of the following actions would be most appropriate?

13. send both students to the principal's office — 13. ____

14. appeal to the other students to help quiet them — 14. ____

15. tell both students to stay after class — 15. ____

16. tell both students to meet with the teacher and a counselor after school — 16. ____

17. speak briefly to both students, stressing need for classroom decorum and respect for others — 17. ____

18. report the incident to the principal — 18. ____

Feedback Corresponding to Response Options for Question Set 8

The following 18 feedback comments would be printed in invisible ink within the 18 feedback boxes in the right-hand column of the latent-image questions. On an actual examination you would use a special pen to uncover ONLY the specified number of feedback comments to correspond to your response choices.

1.	[nothing unusual or traumatic]	10.	[disruption ends]
2.	[nothing unusual or traumatic]	11.	[disruption ends]
3.	[never disrupts class]	12.	[disruption ends]
4.	[occasionally disruptive]	13.	[done]
5.	[well above average]	14.	[done]
6.	[well above average]	15.	[disruption ends]
7.	[done]	16.	[done]
8.	[disruption ends]	17.	[disruption ends]
9.	[disruption ends]	18.	[done]

EXPLANATIONS OF SAMPLE ASSESSMENT QUESTIONS

This section contains explanations of the correct responses to the sample multiple-choice questions and answers (with explanations) to the sample written assignments in the preceding section. Also included is an example of a correctly completed answer document for the sample latent-image set of questions.

Question 1 Explanation

Single Multiple-Choice Question

Correct Response: B (II and III only). Of the four situations described, only II and III effectively reduce the risks involved in using competition to motivate student learning. In situation II, students "compete" only against their own previous test scores; points are awarded and rewards given exclusively on the basis of individual improvement. In situation III, students work together in groups to achieve the goal of writing a good letter. Although the letter produced by each group is rated by every other group, competitiveness among groups is minimized by the focus on finding the best component(s) of each letter and then using them to compose a new letter. The lesson seeks to promote students' ability to identify high-quality work and to use such work as a model for improving the quality of their work. Thus, the emphasis is on helping students generate the best product possible rather than on having them arrive at a judgment about whose product is best.

Unlike situations II and III, situations I and IV do entail risks related to the use of competition in student learning. In situation I, each team's score will reflect the absolute score achieved by each team member. In this situation, higher-achieving students may feel that their "team grade" will be adversely affected by the performance of lower-achieving students. Conversely, lower-achieving students may be made to feel inadequate in relation to their higher-achieving peers. In addition, all students may feel undue pressure to score high on the Friday test in order to keep their team average high compared with other teams' averages. Regarding situation IV, although the teacher has emphasized that effort is more important than winning, races are by nature public and competitive events. It is difficult for students to accept fully the idea that effort is what counts when the actual outcome of the situation (i.e., winning or losing) is so obvious. As in situation I, a primary concern here is that team members of higher ability may resent the negative effect of lower-ability members on the team's ability to win, while lower-ability team members may feel inadequate and embarrassed about "holding back" their teammates.

Question 2 Explanation

First in a Set of Three Multiple-Choice Questions

Correct Response: D. Of the choices given, only choice *D* describes an approach in which information about the accepted practices of experienced professionals is appropriately balanced with Ms. Corelli's personal preferences and judgments. Under this approach to professional development, Ms. Corelli is advised to select a single system whose basic principles and assumptions she finds intuitively most appealing and then to be flexible in adapting the system to meet the particular needs of her classes. In this way, Ms. Corelli is likely to be able to develop over time a disciplinary approach that will be both effective and comfortable for her to use.

Choice *A* is incorrect because it overstates the extent to which insight and intuition can help in the situation described, especially since it appears that Ms. Corelli has already tried and been unable to develop an effective system of discipline on her own. As part of their professional development, relatively inexperienced teachers should be encouraged to take advantage of the accumulated professional knowledge available to them through textbooks and from more experienced teachers. Choice *B* is incorrect for various reasons. First, although reading to find solutions to classroom problems has limits, the approach is not entirely without merit and can often be helpful. In addition, talking to eight different teachers would be time-consuming for all involved and would probably present an inexperienced teacher with even more contradictory and confusing information than the book on classroom management. Choice *C* is inappropriate because trying eight different approaches would most likely lead to a great deal of inconsistency and confusion in the classroom and would take so long to accomplish that it would probably be many months before a coherent, effective system of classroom management could be established.

Question 3 Explanation

Second in a Set of Three Multiple-Choice Questions

Correct Response: B. Choice *B*, establishing clear rules and specific consequences for rule violations, is an essential first step for creating an effective learning environment in any classroom situation. In the case described, it is apparent that Ms. Corelli has so far failed to lay this necessary groundwork for classroom management. Therefore, the establishment and implementation of rules and consequences should be Ms. Corelli's first priority. Although choices *A*, *C*, and *D* can also be important factors in managing a classroom, none of these factors is likely to play an important positive role in classroom management until limits have been established by the teacher and students have accepted the teacher's authority.

Question 4 Explanation

Third in a Set of Three Multiple-Choice Questions

Correct Response: A. This question requires recognition of a situation in which it is most appropriate for a teacher to show flexibility by letting a rule violation pass with neither comment nor punishment. A number of the facts presented indicate that in the situation described this type of response would probably be best. First, we know that for two weeks the students have been cooperative about observing Ms. Corelli's rule about speaking out in class. Second, we are told that Janice, the "offender," is typically an extremely quiet and shy student. Finally, the science problem on which the students have been working is apparently a very difficult one, so that finding its solution might understandably cause a student to become excited and to forget about the usual rules. Given this information, it would be best for Ms. Corelli to praise Janice for her fine effort and simply ignore this one instance of speaking out (choice *A*). In this case, it is probably more important to give Janice recognition for her work than to call attention to the rule that she broke. It is clear that Janice's intent was to participate in the lesson, not to disrupt the class, and that ignoring the infraction will not encourage Janice to become a disruptive student.

Choices *B*, *C*, and *D* are incorrect because in each case the rule violation takes on more significance than it should under the circumstances. By pointing out the rule violation first (choice *B*), Ms. Corelli risks focusing Janice on the negative and stifling any future participation from her in class. Choices *C* and *D*, in which praise occurs first and is followed by a reminder about the rule either during class (choice *C*) or after class (choice *D*), are slightly less negative approaches than choice *B*. Nevertheless, they would still be likely to leave Janice with an overall negative message regarding her work effort and her class participation.

Question 5 Response

(The following is the response of one teacher to Question 5.)

In teaching minority literature, I find students often bring preconceptions of racial stereotypes that hamper their full understanding and enjoyment of some very rich literature. This is particularly true when dealing with novels concerning African-Americans. From TV shows particularly, students have acquired a sense of the strong, matriarchal, almost saintly Black woman or the younger, irresponsible good-time girl. In either case the portraits are far from fully developed human beings.

It is important to be aware of this when teaching a work such as Zora Neale Hurston's Their Eyes Were Watching God. *This novel is valuable because it not only accurately depicts an actual time and place (Eatonville, Florida which was built, populated, and governed completely by Blacks after the Civil War), but it also presents in its protagonist, Janie, a woman of "infinite variety" with faults and virtues, who experiences success and failure, love and loss; who is, in short, a complete human being.*

Students need to be induced into entering Janie's world because she is not interested in the acquisition of position or money. In fact, as the wife of the mayor of Eatonville she has both, but finds that without love and companionship, life is sterile. Only when she marries Tea Cake and moves "down" to become a migrant worker picking vegetables in the "muck" does she experience true happiness.

Students bring a number of false preconceptions to a reading of Hurston. First, consciously or unconsciously, they have absorbed the meaning of the American dream to be upward mobility based on wealth and education. Janie has acquired wealth through her second husband whose constant pursuit of it has cost him his humanity. She never had much formal education. Fortunately, through discussion, students come to see the barrenness of Janie's life with Joe, the mayor. When he dies and she chooses Tea Cake, students' acceptance of the new situation is difficult, but it does come.

Two other areas of preconception need attention. A great deal of the novel is written in Southern Black dialect. The teacher needs to be aware that often students equate dialect with ignorance. Fortunately, Hurston uses so many lively metaphors and folk tales that students, for the most part, come to appreciate the richness of this culture. The students' attitude, however, must be acknowledged and discussed if it is to be changed. A discussion of colloquial expressions of the students' own community, or even popular teenage expressions, can help show that nonstandard English can be vivid and lively and should be read nonjudgmentally.

Finally, many students look upon African-Americans, or indeed any minority, as a monolithic group without the huge individual differences taken for granted in the dominant culture. Here too, Hurston shows us how among certain African-Americans, shade of coloring can determine one's social status. Here I found the use of a tape of an Oprah Winfrey show invaluable. In one show she presented several people, both male and female, who recounted their experiences among their African-American families and friends, based on the darkness or lightness of their skins. She also had an African-American professor from Harvard and Maya Angelou, a well-known author, comment on this phenomenon. The discussion is effective because it takes place in the here and now and therefore is very real to the students.

One last reason for teaching this work is that it shows a community of African-Americans living their lives and reacting to each other, with Whites as a peripheral part of the story rather than central to the action. This too makes the novel unique and one worth teaching, particularly to White students whose experience and understanding of African-American culture has been limited.

Because our department is presently attempting to expand our students' multi-cultural experiences and because the students of one class often have the same kind of preconceptions and misperceptions as those of another, I shared my successes and failures with other members of the department. As a result we pooled our ideas and also agreed that the work was important enough to include in the tenth-grade curriculum. Incidentally, a student intern who participated in this activity subsequently got a position in a neighboring school system. Finding that little minority literature was used because the White teachers were not comfortable with it, she talked the problem over with us and we volunteered to send a group of three teachers to meet with their English department members who might be interested. When we arrived we were agreeably surprised to find the whole department assembled. Sharing what we had found in teaching Hurston and emphasizing the positive outcomes we all had witnessed, we were able to persuade them to try teaching Their Eyes Were Watching God *to at least one class. We later were told that their experiences were as positive as ours had been. The book does work and is an extremely useful vehicle for addressing issues of race and gender bias in a nonthreatening way.*

Question 5 Explanation

Written Analysis Question

The teacher describes an area of instruction, minority literature, in which the issue of inaccurate student preconceptions commonly arises and has important implications for student learning. Throughout the response, the teacher demonstrates a strong understanding of instructional content and of the importance of taking into account learner characteristics as they relate to that content.

The response addresses two major areas of inaccurate student preconceptions: students' stereotypical views about individuals and groups in a culture other than the majority culture (including stereotypes related to the use of nonstandard dialects and the "sameness" of individuals within minority groups) and students'

simplistic notions about the relationship between happiness and attainment of "the American dream" (i.e., upward mobility). The teacher outlines specific strategies for guiding students toward overcoming these inaccurate preconceptions. By using diverse techniques to accomplish instructional goals, the teacher is likely to be effective in meeting the instructional needs of a broad range of students, while at the same time reinforcing key concepts for all students.

The teacher addresses students' cultural stereotypes in a variety of ways, including class discussions based on the literary work itself (e.g., pointing out the richness of the author's language to help students appreciate the richness of African-American culture), class discussions based on the students' own experiences (e.g., illustrating the positive aspects of using colloquial, nonstandard English), and classroom presentation of a tape of a television talk show on a related theme (i.e., the implications of diversity within the African-American community). Regarding the issue of "the American dream," the teacher again uses class discussions to make students think deeply about what they are reading, this time to help them see the complex factors behind people's motivations and choices.

Overall, the teacher shows an ability to plan and deliver instructional content in ways that are meaningful to students. The teacher's insight and sensitivity are thus apparent not only in relation to the content itself, but also in relation to the characteristics and needs of those to whom the content is being taught.

The teacher exhibits strong awareness regarding issues of cultural diversity and implies that efforts to improve students' understanding of the diversity around them are central to the role of a literature teacher. The teacher uses a significant amount of instructional time to increase students' knowledge about diversity and to present course content that will help students of any social or cultural background view cultural variation in a positive light. Further, the teacher's classroom treatment of the literary work in question shows respect not only for diversity among groups but also for the uniqueness and inherent worth of individuals within culture groups.

In the final paragraph of the response, the teacher shows a strong sense of professional responsibility and leadership in relation to his or her department and to the practice of literature instruction in general. The teacher recognizes the importance of working with colleagues both inside and outside the school to share ideas that will increase instructional effectiveness. Professional leadership and commitment are apparent in the teacher's use of personal classroom experiences in an effort to broaden and diversify literature curricula and to help others in the field.

Question 6 Response

(The following is the response of one teacher to Question 6.)

The following assignment was prepared for a sixth-grade science class that was studying the topic of heredity.

Objectives: 1) To identify the parts of a plant and animal cell including nucleus, chromosomes, genes, DNA, protoplasm, vacuoles, mitochondria, chloroplasts
2) To describe the function of each part of the cell

Materials: Whole group—2 overhead transparencies: 1) plant cell with parts labeled; 2) animal cell with parts labeled; overhead projector and screen

Center #1—microscopes and slides (cells of onion, human, and plant)

Center #2—a pre-constructed 3-D model of an animal cell; different colors of clay; 1" × 1/4" sections of index cards (for labels); science books; common pins; thin magic markers; plywood boards

Center #3—colored construction paper; paste or glue; science books; writing paper; pencils; thin markers; different types of cereals (Cap'n Crunch, Mueslix, Apple Jacks, All-Bran, Fruit Loops, etc.); small plastic see-through cups

Procedure:

1) On overhead projector, display two transparencies—one of a plant cell, one of an animal cell. Review with the class the different parts of each cell and their functions. (This was necessary since the students failed to complete satisfactorily the previous day's assignment, which was to read about the cell in the science book.)

2) Explain to the class that there are three centers set up in the room. Students will be rotating through each center.

Center #1—Students will view slides of a human cell, an animal cell, and a plant cell by means of a microscope. I will be stationed at this center to point out details and to ask them to contrast and compare the different cells and their structures.

Center #2—Students, working in pairs, will use different colors of clay to construct a 3-D clay model of an animal cell on a plywood board. The different colors of clay will be used to represent the different parts of the cell. A pre-constructed 3-D clay model will be on display for them to copy. Small pieces of index cards and pins will be available for them to label the various cell parts. Students will need to consult their science books (yesterday's assignment) for this information.

Center #3—Students, working in pairs, will use different colored and shaped cereals and paste/glue these cereal pieces on a large sheet of colored construction paper to represent a plant cell and its parts. For example: a shape like this: ⬭ could be used to build a cell wall; a shape like this: ◎ could be used to represent a mitochondrion or a chloroplast. The nucleus of the cell could be shown by gluing a small plastic cup "lip down" over pieces of cereal that would represent chromosomes. Students should then use markers to label each cell part on the paper. In this center, they will also in pen, on paper, list each cell part and write a sentence or two to describe the part's function within the cell. To do this, they can refer to the science book's diagrams, which were part of yesterday's assignment.

As a culminating activity, I would assign each student a "role" to play in an imaginary cell and ask the class to work together and physically form a cell. For the "cell wall" students would make a circular shape. Mitochondria, vacuoles, and chloroplasts (in a plant cell) would scatter themselves within the cell. Students who were assigned the role of chromosomes should gather in one spot inside the cell to form a nucleus. Students who were genes might "attach" themselves to the chromosomes in some way. Each student would then be asked to explain orally his/her role, *i.e., function, in the cell.*

This activity would enable me to judge whether or not the students had a clear understanding of the lesson's objectives.

Assessment: I will evaluate each student's work by checking the finished product of Centers #2 and #3. Each animal cell made out of clay should have its parts labeled and spelled correctly. Each plant cell made out of cereal should have its parts labeled and spelled correctly also. The written list of the cell's parts (Center #3) and their functions will be judged for accuracy.

In Center #1 I will assess the students' mastery of the objectives through discussion, where we identify, compare, and contrast the parts and functions of the cells shown on slides.

Question 6 Explanation

Work-Sample Product

The student assignment described in the response establishes clear and meaningful learning objectives that are measurable and appropriately challenging for students. Moreover, the learning opportunities outlined by the teacher take into consideration the need to monitor and verify student achievement of the objectives.

The teacher has planned a series of activities that should effectively guide and reinforce the learning of all students in the class while meeting the individual needs

of students who have various learning styles and preferences. The lesson described includes activities that are accomplished individually, in pairs, and in a whole-class context; it also employs various types of learning formats (e.g., lecture, observation, hands-on activities) and resources (e.g., overhead transparencies, microscope, models) that support a variety of learning modalities (e.g., aural, visual, tactile, kinesthetic). The diversity of the approaches used and the participatory nature of the lesson should also help improve student motivation which, according to the information provided in the instructions, has been a problem in relation to this topic. Furthermore, by integrating information and materials from the previous lesson into this day's lesson, the plan takes into account the students' failure to complete satisfactorily the previous day's assignment on the same topic.

The teacher's use of a variety of informal assessment techniques should provide ample opportunity to evaluate each student's mastery of lesson objectives. In Center #1, the teacher will discuss the basic content of the lesson with students to help them verbalize what they have learned and to assess their comprehension of the material. For Centers #2 and #3, the teacher will evaluate student work products (models of plant and animal cells) for accuracy and completeness. In addition, the list of cell parts and their functions that students will generate in Center #3 will be evaluated for accuracy. Finally, the concluding whole-class activity will give the teacher one more opportunity to assess student understanding and to uncover any remaining difficulties students may be having with the content.

Question 7 Response

(The following is the response of one teacher to Question 7.)

Part I:

This student, whose attitude has become hostile and whose disruptions are severe, appears to be reacting to some new problem in his/her life. If the student up to that point had performed well in school and had no history of inappropriate behavior, I would assume that there has been a change of some sort in his/her life. I do not see any cause at school for the changed behavior, so I might assume that the problem lies outside of school. Are the student's parents having difficulties, financial or marital? Has the student's peer group changed? Is it possible that he/she has become involved in drug or alcohol consumption?

The first step I would take to address the problem is to speak to the student directly. This should be done before or after class when no one else is around. I would describe to the student the difficulties as I see them and then ask the student how he/she views the problem. Can the student explain his/her recent behavior and changed attitude? At that conference I would also restate classroom expectations and rules, so that the student will know that if his/her behavior is unacceptable, he/she will be removed from the classroom.

Assuming that one conference like this would not be enough to solve the student's problem, I would refer the student to the school counselor. Possibly a third party removed from the classroom might be helpful. The counselor could visit the class to observe the student and schedule meetings with him/her as necessary. I would also make it clear to the student that I would be available if he/she wished to talk more with me.

The school principal should be notified of the problem and the steps being taken to resolve it. The principal might be aware of some extenuating circumstances in the student's life that could account for the changed classroom behavior. I would also contact the student's parents to describe the situation, express my concern, and ask for their assistance.

Another step I would try would be to adjust the classroom demands on the student for a while. If the student cannot cope with the regular classroom routine, then I could explore with the student alternative methods of learning my objectives for lessons. For example, if group work is a source of conflict, the student could be excused from this method of learning and work independently. This sensitivity to the student's problems, which are obviously far more consuming at this point in his/her life than academics, allows recognition of those problems and shows the student that others care and are willing to work with him/her on a resolution.

Part II:

Justification for my actions in this case centers on my responsibilities as a teacher. It is my responsibility to establish a classroom environment conducive to learning. When a student's behavior disrupts this environment, it is unacceptable and the student must be removed. This is the immediate consequence which has been clearly communicated to the disruptive student.

Building on the relationship of trust and respect which I have worked on this year with members of my class, I first communicated with the student. I listed as well as firmly stated my expectations for classroom behavior. I explained why his/her behavior cannot be tolerated and how it affects others. From that point, it was necessary to inform others in the administration, such as the counselor and principal, since the student's behavior and its effects on the school environment were a concern.

The student's emotional needs have to be dealt with before any learning in the classroom can take place. Right now the student's attitude and behavior severely impede his/her academic progress. In an effort to be sensitive to the student's needs, I have also adjusted the classroom environment, (e.g., moving his assigned seat to another area of the room) and changed his program or assignments (not the lesson objectives) to better suit his present situation.

I would finally suggest that all concerned parties, including the student, meet to discuss the situation.

Question 7 Explanation

Educational Management Problem

The teacher's interpretation of and response to the situation reflects a sensitive, nonjudgmental, realistic approach to a classroom management issue. The teacher applies general knowledge of human development to the given facts about a particular student to analyze the situation presented, formulate ideas about possible causes of the problem, and develop a set of strategies to assist in dealing with the problem. Using a carefully planned series of responses, the teacher approaches the problem in a candid and fair way that indicates that identifying and addressing the student's needs are of primary importance. Moreover, the teacher exhibits an appropriate level of flexibility in dealing with the discipline problem. For example, the teacher is willing to modify instructional techniques in specific, nondisruptive ways in order to meet the student's current needs; on the other hand, the teacher correctly refuses to modify for the student the fundamental expectations upon which the management of the classroom is based.

In communicating with others about the situation, the teacher appears to strike a good balance between the need to address directly a relatively serious classroom problem and the desire to be fair and to remain sensitive to the student's needs. It is appropriate for the teacher to begin by communicating privately with the student in a way that lets the student know that the teacher is concerned about him or her and values his or her input regarding the situation. If one-on-one discussion with the student does not solve the problem, the school counselor, the principal, and the student's parents may all be brought into the process. The teacher recognizes his or her individual limitations and seeks advice and assistance from others, both inside and outside the school, in appropriate ways.

In the responses and communications described, the teacher demonstrates a high degree of professional knowledge regarding student characteristics, extra-class influences on classroom behavior, disciplinary and communication approaches, modifications to instruction that may affect student learning and attitudes, and other pedagogical issues. The teacher accepts his or her professional responsibilities and works with others as necessary and appropriate. The teacher is aware of the needs and concerns of all parties involved and is sensitive to the implications of each step in the response described. The response reflects the teacher's ability to use professional knowledge to analyze and understand a difficult situation, to act appropriately to address the situation, and to make effective use of human resources outside the classroom.

Question Set 8 Explanation

First (Part A) in Set of Three Latent-Image Multiple-Choice Questions

Correct Responses: 3 and *4*. The question asks which two of the six factors given would be most important for the teacher to consider in the situation described.

Because the disruption noted does not appear to be of a very serious nature and the students involved do not seem to be anguished or hostile, the teacher can probably assume that the factors noted in choices *1* and *2*, which imply some serious underlying problem, are not particularly relevant to the situation. On the other hand, the factors noted in choices *3* and *4* are important because the response to the situation should in part depend on whether this is an isolated incident or an ongoing problem for either student involved. There is no indication that the incident described might be a reflection of academic concerns, so choices *5* and *6* are not as relevant as choices *3* and *4*.

Second (Part B) in Set of Three Latent-Image Multiple-Choice Questions

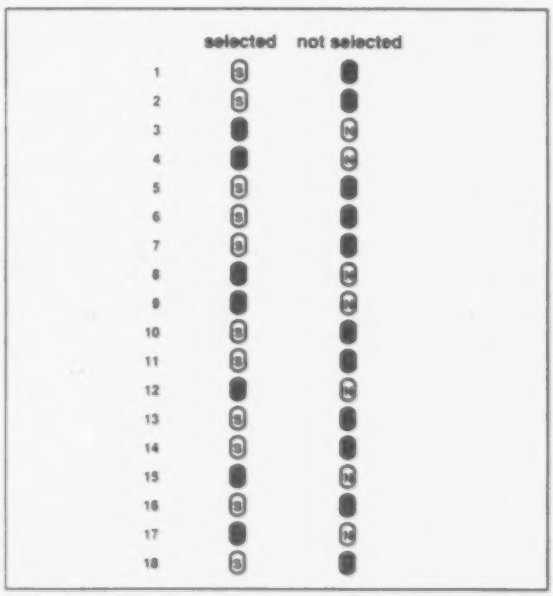
Correct Responses: 8, 9, and *12*. This question asks which three of six responses are most appropriate for dealing with the disruption and refocusing the class's attention as quickly as possible. Choices *8* and *9* are reasonable actions to take under the circumstances; neither response is excessive and neither would cause much interruption of the lesson. In addition, choice *9* has the advantage of reinforcing students' understanding of the reasons for the rules in their class. Although choice *12* does not address the issue of the disruptive behavior in a direct and explicit way, it probably would be effective in ending the disruption quickly and refocusing the students involved on the review lesson. Alternatively, choices *7* and *10* represent inappropriately harsh threats for a relatively minor behavior infraction by students who are not typically troublemakers. Choice *11* would also be an inappropriate action to take unless less punitive solutions, such as those presented in choices *8, 9,* or *12,* had already been tried without success.

Third (Part C) in Set of Three Latent-Image Multiple-Choice Questions

Correct Responses: 15 and *17*. This question asks which two of six actions would be most appropriate for addressing a second disruptive incident involving the two students. Choice *15,* having the students stay after class, would now be appropriate given that the less punitive actions tried in Part B have apparently been ineffective as longer-term remedies. Choice *17,* reminding the students about the reasons for classroom rules, would also be appropriate and could help the students better understand the negative effects their actions may be having on their classmates. In a situation that is still not very serious, choices *13* and *18* would represent an unwarranted escalation and a premature admission of failure by the teacher. Choice *14* relies upon the inappropriate use of public shame and could well cause unease among classmates who are behaving properly. Choice *16,* which would involve bringing in a school counselor to deal with a relatively minor incident, is also a stronger response than the situation appears to warrant.

Marking Latent-Image Responses in the Answer Document

Question set 8 requires a slightly different approach to marking responses in the answer document than the other multiple-choice questions. This approach to responding is described on pages 8 and 9 of this manual. Responses to question set 8 would be correctly marked as follows on the answer document.



Note that EVERY numbered response option is marked either "selected" or "not selected." The correct responses (3, 4, 8, 9, 12, 15, and 17) are marked "selected"; the incorrect responses (1, 2, 5, 6, 7, 10, 11, 13, 14, 16, and 18) are marked "not selected."

Finally, for question set 8 to be considered correctly answered, the feedback boxes in the test booklet that correspond to the options marked "selected" would all have to be UNCOVERED by the latent-image pen, and the feedback boxes that correspond to the options marked "not selected" in the test booklet would all have to be STILL COVERED. Uncovering a feedback box in the test booklet with the latent-image pen indicates your selection of the corresponding response option. Once a feedback box is uncovered, there is no way to cover it again.

This section of the TMTE Preparation and Registration Manual describes the Rules of Test Participation for the TMTE, the eligibility criteria for taking the TMTE, the procedures you should follow to register for the examination, and the way TMTE scores are reported.

Rules of Test Participation

This manual and the following rules govern your participation in the TMTE. By registering for the TMTE, even if you do not sign the registration form, you are agreeing to comply with all rules and requirements specified in this manual or communicated at the test administration. Failure to sign the registration form, to write out the identity and eligibility certification statement, and to comply with all rules and requirements may result in cancellation of your test results or in other actions. If the Texas Education Agency (TEA) or National Evaluation Systems, Inc. (NES) has reasonable cause to question the validity of your registration, eligibility, or test results, your test results may be canceled. If any actions are taken by you that are prohibited, or if you fail to comply with program rules and requirements, your test results may be canceled. If test results are canceled for any reason, no refund will be issued, no portion of the testing fee can be applied toward the cost of any future testing fees, and legal actions may be pursued, as well as any other remedies that the TEA and NES may deem appropriate.

1. I understand that I must fill out the registration form completely, including my signature and the identity and eligibility certification statement, and submit all applicable test fees before I will be permitted to take the examination or to register for an additional TMTE test administration. If I take the test without complying with this requirement, my test results may be canceled and I will receive no refund or credit of any kind.

2. I affirm that I am eligible to take the TMTE based on the eligibility requirements described in TAC §141.443 (page 32 of this manual).

3. If I withdraw from a test administration before the regular registration deadline for that administration, I may receive a partial refund. If I withdraw after the regular registration deadline or if I am absent from the test administration or from either test session, I will receive no refund or credit of any kind.

4. I understand that I will not be admitted to the testing room if I do not have the proper identification (which consists of a valid admission ticket and two pieces of official, signed identification, one of which contains a recent photograph) or if the test session has already begun when I arrive. Under either of these circumstances, I will be considered absent from the test and will receive no refund or credit of any kind. I understand that I cannot be readmitted to the test session once I have turned in my test materials and been dismissed.

5. I authorize the test administrators to serve as my agents in maintaining a secure test administration. I agree to follow all reasonable instructions given to me either orally or in writing at or during the test administration, including, but not limited to, instructions to relocate me during the test session. I agree not to engage in behavior that would disrupt or unfairly affect the performance of myself or other examinees. I agree to sign the answer document(s), to write out the identity and eligibility certification statement, to provide identification as specified above, and to cooperate with testing personnel. If I fail to comply with these provisions or if I disrupt or unfairly affect the performance of myself or other examinees, I may be dismissed from the test center and my score may be canceled without refund or credit of any kind.

6. In the event of a possible breach of test security, I agree to cooperate with testing personnel and to submit to reasonable review of my personal property before my dismissal from the test center. If I fail to comply with these conditions, my name will be reported to the TEA and NES, and my score may be canceled without refund or credit of any kind.

7. I understand that all test booklets, answer documents, and other test materials are the sole property of the TEA. I affirm that these materials have not been available for me to review before taking the test, and I understand that they will not be available for me to review after the test. I understand that I am not permitted to take any test materials, or notes about the test materials, from the testing room or to reproduce the test materials in whole or in part.

8. I understand that I will not be permitted to take notes into the examination room. Throughout the examination, I will have nothing on my desk but the test booklet, answer document, pencils, and erasers. The use of calculators, calculator watches, or any unauthorized aid is prohibited. I may use the margins of the test booklet or other officially provided paper for any intermediate work I need to do to answer specific questions; no other scratch paper is permitted. However, only answers that I record in the specified place on my answer document will be scored.

9. I will not communicate with other examinees or any unauthorized persons in any way during the test administration nor engage in any other form of misconduct.

10. I understand that my responses to the written assignments on the TMTE will be scored from the perspective of the teaching area that I selected by filling in the bubbles on my registration form (or that I corrected in accordance with procedures described in this manual). Furthermore, I understand that if I respond to any written assignment from the perspective of a teaching area other than the one I selected, that written assignment may be scored "off topic" and receive no credit.

11. I understand that my test score will be reported to the TEA unless I cancel the score using the procedure described in this document. Unless I cancel my score, my score report will be sent to me and the TEA even if I leave the testing room before I finish the test (e.g., because of an illness).

12. If I do not want my score reported, I understand that I must request in writing within one week after the test date that my test score be canceled. A Score Cancellation Form will be available at the test center on the date of the test. If I cancel my test score, I will receive no refund or credit of any kind.

13. If doubts are raised about the validity or legitimacy of my eligibility, registration, or score, NES will notify the TEA and other parties as deemed appropriate by the TEA. The TEA reserves the right to cancel my test score if, in its sole opinion, there is adequate reason to question the validity or legitimacy of my score due to circumstances within or beyond my control. If my score is canceled, I understand that I will receive no refund or credit of any kind.

14. I understand that the only legitimate score report is the one issued by NES. Any attempt to defraud any party with another score report will be cause for action by the TEA against any and all teacher certificates that I hold.

15. I understand and agree that liability for test administration activities, including, but not limited to, the adequacy or accuracy of test materials, the adequacy or accuracy of the registration and administration processes or conditions, and the accuracy of score reports, will be limited to score correction or test retake at no additional fee. I waive rights to all further claims arising out of any acts or omissions of the TEA and/or NES.

16. I understand that the testing program is subject to change at the sole discretion of the TEA.

17. If, for any reason, I object to the procedures presented above, I will advise NES, in writing, of the basis of my objection at least eight weeks before the test date for which I have registered. In such a case, my objection will be taken under consideration. If my objection is not honored, I will not be registered for the test administration. Under no circumstances may I use the late registration procedures to register if I have such an objection.

18. I understand that should any of these rules or any other requirement or provision contained in this manual or communicated at a test administration be declared or determined by any court to be illegal or invalid, the remaining rules, requirements, and provisions will not be affected and that the illegal or invalid rule, requirement, or provisions shall not be deemed a part of this manual.

Who is Eligible To Take The TMTE?

Eligibility to take the TMTE, as described in TAC §141.443 (c)(d), is limited to individuals who possess a valid Texas teacher certificate, are teaching in a Texas public school classroom, and are on Level II (or higher) of the Texas Teacher Career Ladder.

Taking the examination is voluntary. Examination results are to be used by local districts only for the purpose of determining entry to Level IV of the Texas Teacher Career Ladder.

How to Register for the TMTE

Test Dates

The 1990-91 test dates and registration schedule for the TMTE are listed on the back cover of this manual. Because all registration is on a first-come, first-served basis, please mail your registration to Austin as early as possible. Deadlines will be adhered to strictly.

Test Fees

The following chart lists the fees for the TMTE.

Fee for regular registration (if postmarked by the deadline)	$145.00
Optional fees:	
• for late registration (if received by the end of the late registration period. See page 35.)	$50.00
• for changing your registration (if received by the end of the late registration period. See page 35.)	$50.00
• for duplicate score report	
Standard delivery (See page 37.)	$15.00
Expedited delivery (See page 37.)	$25.00
• for score verification (See page 37.)	$25.00

Payment must be made in the form of a personal check, bank check, cashier's check, or money order. Please do not send cash. Forms received without proper payment may be returned.

Affirmation of Eligibility to Take the TMTE

By submitting a registration form for the TMTE, you are affirming that you are eligible to take the examination as specified in TAC §141.443 (see above). Individuals who take the examination and are found to be ineligible may have their test scores on the TMTE canceled without refund or credit of any kind.

Compliance with Rules

By submitting a registration form for the TMTE, you are agreeing to abide by the Rules of Test Participation listed on pages 30–31 of this manual and all procedures and policies contained in this manual and/or communicated at the test administration.

Registration Form

The registration form is in the envelope in the center of this manual. Carefully remove the envelope and the form.

Register Carefully

Read all of the instructions before filling out the form. Provide accurate information and check it before mailing. Remember, your form must be postmarked by the regular registration deadline (or received by the late registration deadline). See the back cover for test dates and registration deadlines.

Instructions

Refer to the numbered instructions on the following pages as you fill out the registration form.

Because the form is processed by computer, please do the following.

- Use only a No. 2 pencil.
- Erase all errors completely.
- Do not make stray marks on your form or staple it.
- Fill in both the boxes at the top of each block and the matching ovals.
  1. Enter only one letter per box.
  2. Do not skip columns except for blank spaces.
  3. Do not leave out blank spaces where they are needed.
  4. Do not fill in more than one oval per column.

Your records with NES will reflect the information you mark in the ovals.

Problems with your registration form or payment may result in the form being returned to you and may jeopardize your registration.

How to Complete the Registration Form

1. NAME

Enter your name in the boxes provided, last name first. If your name has more letters than will fit in the spaces provided, enter only as many letters as there are spaces. Then fill in the matching oval under each box. On your TMTE Admission Ticket and score report, your name will appear exactly as it appears in the ovals.

2. ADMISSION TICKET MAILING ADDRESS

Beginning with the first box, enter the complete mailing address where you wish to receive your admission ticket and score report. Fill in the matching oval under each box.

3. ETHNICITY

Fill in the appropriate oval.

4. SEX

Fill in the appropriate oval.

5. SOCIAL SECURITY NUMBER

Enter your social security number, one digit per box. Fill in the matching oval under each digit. The accuracy of your social security number is an essential part of the registration and score reporting process. It will enable the TEA and NES to keep track of your test records. Please check that the number is entered correctly. If you do not include your social security number, your registration form may be returned to you.

6. DATE OF BIRTH

Enter the month, day, and year of your birth. Fill in the oval next to the month of your birth. Use two digits for the day; if the day has only one digit, place a zero in the first box. Enter the last two digits of the year in which you were born. Remember to fill in the ovals for the day and the year.

7. TEST DATE

Fill in the oval to indicate the date on which you prefer to take the TMTE. Select only one date. Do not use this form to change a test administration date for which you are already registered. Use the Change Request Form on page 39 for this purpose.

8. TEST CENTER WHERE YOU WANT TO TAKE THE TMTE

Refer to Table 1 and select your first and second choice test center locations. Enter the three-digit code for each test location in the boxes provided and fill in the matching ovals.

Table 1
Test Locations and Codes

CODE	LOCATION
001	Dallas area
002	Edinburg area
003	El Paso area
004	Houston area
005	Lubbock area
006	Midland-Odessa area
007	San Antonio area

These locations are subject to change. If a change in location becomes necessary, efforts will be made to schedule a new center in the same general geographical area. If a location is canceled due to lack of enrollment, you will be assigned to your second-choice location.

The name and address of your test center will be listed on the Admission Ticket that you will be sent before the administration.

9. TEACHING AREA

Select ONE teaching area from Table 2 on page 38 of this manual. The teaching area you choose is important for the written assignment section of the TMTE. You will be required to respond to each of the written assignments on the examination from the perspective of the teaching area you select here. Moreover, your written assignments will be scored by Texas teachers in the teaching area you choose.

For example, if you choose "Geography" as your teaching area, your responses to each of the written assignments should be written from the perspective of a teacher of geography (not any other subject you teach or have taught), and your responses will be scored by geography teachers.

Choose your teaching area carefully. Once your teaching area is selected, your written assignments will be scored according to that teaching area. If you answer any written assignment from the perspective of a teaching area other than the one you select here, that assignment may be scored "off topic" and receive no credit.

Write the three-digit code for your teaching area in the boxes. Then fill in the ovals that correspond to this code. Your registration form and fee will be returned if you fail to indicate a teaching area from the list. If this happens, you may not have time to register for the examination.

10. FEES AND PAYMENT

To calculate your payment, please:

A. fill in the oval(s) next to the fee(s) that apply to you;

B. enter the dollar amount in the boxes next to the applicable fee(s);

C. add up the applicable fee(s) and write the total in the boxes provided;

D. fill in the ovals that correspond to the total payment.

Please make out a personal check, money order, bank check, or cashier's check for the correct amount payable to National Evaluation Systems, Inc. Write your own social security number on the check or money order. If no payment or insufficient payment accompanies your registration form, the form will be returned to you and you may not have time to register.

Your score report cannot be prepared until your payment has cleared and your account with NES is paid in full. Please cooperate by computing your payment carefully and sending it to NES promptly with your registration form. If your check is returned by the bank, you will be charged a check processing fee of $10 in addition to any charges from your bank.

11. SIGNATURE

Carefully review the rules of test participation on pages 30 to 31. After you have read and understood these rules, sign your name on the line provided in box 11. Your signature means that you certify that you are eligible to take the TMTE and that you agree to the conditions presented in this manual and communicated at the test administration, including the Rules of Test Participation. Even if your form is received without your signature, submitting your registration form indicates that you agree to the rules and conditions set forth in this manual and at the test administration.

12. IDENTITY AND ELIGIBILITY CERTIFICATION STATEMENT

In your own handwriting, copy the identity and eligibility certification statement on the blank lines beneath the printed statement. Do not write beyond the boundaries of box 12. If you fail to write the statement, your registration will be rejected and your registration form and fee will be returned. Even if you do register, attend the test administration, and take the test, your failure to write the identity and eligibility certification statement in box 12 in your own handwriting may result in your score being canceled after the administration without refund or credit of any kind.

Sending in the Registration Form

Please check the completeness and accuracy of the information you provided on the registration form, especially your social security number.

Enclose your personal check, money order, bank check, or cashier's check for the correct amount, payable to National Evaluation Systems, Inc. Make sure that you have written your own social security number on the check or money order.

If you require special testing arrangements or an alternative test date, enclose the appropriate documents mentioned on pages 36–37.

You are responsible for ensuring that your registration form is postmarked by the registration deadline. Registration forms postmarked after the registration deadline will be returned, together with your payment. If this happens, you may not have enough time to register (even through late registration) for the examination.

If you miss the regular registration deadline for a particular date and still wish to register for that date, consider using the late registration option described on page 35. Late registration requires an additional fee.

Mail your completed registration form and payment in the envelope provided in the center of this booklet to:

TMTE
National Evaluation Systems, Inc.
P.O. Box 140286
Austin, Texas 78714-0286

Note: If you are using an express mail service to send in your registration form and payment, use the following address:

TMTE
National Evaluation Systems, Inc.
2621 Ridgepoint Drive
Suite 240
Austin, Texas 78754

Use this address ONLY if you are sending your materials via express mail.

If you owe any fees from a previous administration, whether you attended the administration or not, you will not be permitted to register for or take the test until you clear your account.

Admission Ticket

After NES processes your registration form, you will be sent an Admission Ticket, which will list your name, address, social security number, test center, testing location, test date, the teaching area you selected for your written assignment responses, and your examinee number. Any information that you did not provide on your registration form will be missing from your Admission Ticket.

Verify Information Promptly

When you receive your Admission Ticket, make note of any necessary additions or corrections. **Be especially careful to check the teaching area and your social security number.** Use table 2 (page 38) to verify your teaching area and correct it if necessary. You will not be able to change your teaching area after the late registration deadline or at the test administration site.

If you have any changes or additions to make, write them on the Additions/Corrections Form that is part of the Admission Ticket, detach the form from the Admission Ticket, and mail the form IMMEDIATELY to:

TMTE
National Evaluation Systems, Inc.
P.O. Box 140286
Austin, Texas 78714-0286

Only those Additions/Corrections Forms postmarked before the end of the late registration period will be processed in time for the administration. Note: If the information on the Admission Ticket is complete and accurate, you do not have to return the Additions/Corrections Form.

Remember to take your Admission Ticket to the test center on the day of the test. If you have not received your Admission Ticket two weeks before the test date, or if you lose it, call NES at (512) 926-0468 between 9 A.M. and 5 P.M., central time. Information about your registration will be released only to you.

Late Registration

If you missed the regular registration deadline, you may seek to register on a space-available basis during the late registration period. (See the back cover for the dates of the late registration period.) There is an additional $50 fee above the regular registration fee of $145 for registering during this period.

To register late, complete the standard registration form, fill in the oval signifying late registration in question 10, add the $50 late registration fee to your payment, and send in your form and payment to arrive at NES before the end of the late registration period. Forms submitted during the late registration period must be **received by the late registration deadline** and must be accompanied by proper payment. Forms received after the deadline or with insufficient payment will be returned. If you are sending your registration form close to the deadline, you should consider using an express mail service to ensure that your form reaches NES in time. For express mail ONLY, the address to use is:

TMTE
National Evaluation Systems, Inc.
2621 Ridgepoint Drive
Suite 240
Austin, Texas 78754

Changing Your Test Center or Test Date

If you decide to change either the test center or test date for which you originally registered, use the Change Request Form on page 39 of this manual. Your form must be **received at NES before the end of the late registration period** for the test date you wish to change from or to, whichever comes first. The registration schedule appears on the back cover.

PLEASE NOTE: Changes in registration will be processed only if seats are available at the requested test center and on the requested test date. Otherwise you will be informed that the change could not be made.

An additional $50 processing fee above the registration fee of $145 is charged for all registration changes. Changes will not be made if payment is not made or is incorrect.

Send your completed Change Request Form to:

TMTE
National Evaluation Systems, Inc.
P.O. Box 140286
Austin, Texas 78714-0286

If you are using an express mail service (ONLY), use the following address:

TMTE
National Evaluation Systems, Inc.
2621 Ridgepoint Drive
Suite 240
Austin, Texas 78754

Withdrawing Your Registration

If you wish to withdraw your registration, fill out the Withdrawal Request Form on page 41 of this manual. You will receive a partial refund of your fee, in the amount of $75, if your request is **postmarked by the regular registration deadline** of the test date for which you originally registered. No refunds will be issued for Withdrawal Request Forms postmarked after the regular registration deadline. The registration schedule appears on the back cover.

Send your completed Withdrawal Request Form to:

TMTE
National Evaluation Systems, Inc.
P.O. Box 140286
Austin, Texas 78714-0286

If you are absent from either or both sessions of the test administration for which you are registered and you did not submit a Withdrawal Request Form postmarked before the regular registration deadline, you will not be entitled to a refund or credit of any kind.

If you are absent from either or both sessions of the test administration due to an emergency circumstance (e.g., hospitalization, death in the immediate family, accident), you must furnish written documentation to NES signed by professional personnel licensed for the emergency (e.g., doctor, police) within one week after the test date in order to receive any special consideration. Special consideration will be limited to registration for the next test date and will be subject to approval by the TEA. You will be entitled to neither a refund nor a partial test score.

How to Register for Special Administration Procedures

Examinees with a Handicapping Condition

Special administration arrangements can be provided at all test sites for examinees who would not be able to take the test under standard conditions because of a handicapping condition (e.g., hearing impairment, visual impairment). Requests for special arrangements should be made in writing before the regular registration deadline and must be accompanied by the documents described in this section.

All of the following documents must be submitted if special arrangements are needed because of a handicapping condition:

- a letter from the examinee that includes a description of the handicapping condition and the special arrangements requested; AND
- a completed registration form with proper payment; AND
- a diagnostic statement written on professional letterhead by a qualified professional whose license or credentials are appropriate to diagnose the disability (e.g., physician for mobility impairment or ophthalmologist for visual impairment).

All of the material requested above must be submitted together. The examinee's social security number and phone number must appear on all correspondence.

Examinees who request special procedures may be contacted directly to discuss suitable arrangements. Examinees will receive before the test date confirmation of any special procedures that have been approved and arranged.

Examinees with Other Special Conditions

Special arrangements for the following conditions can be accommodated at ALL test centers, if requested in writing before the regular registration deadline:

- special seating (e.g., due to pregnancy)
- need for periodic breaks (e.g., for hypoglycemia, diabetes)
- use of magnifying devices or large print tests (e.g., for the visually impaired)
- written copy of the oral test directions (e.g., for the hearing impaired)

Examinees Needing an Alternative Test Date for Religious Reasons

Special test dates may be arranged for people whose religious practices do not allow them to take tests on Saturdays. These alternative test dates may be arranged only for religious reasons.

To request an alternative administration date, examinees must:

- complete the registration form and include proper payment;
- submit a letter stating their request; and

- include a letter from their clergy, on the clergy's letterhead stationery, verifying the religious basis for their request.

These three documents must be submitted together and must be received by the regular registration deadline. The examinee's social security number and telephone number must appear on all correspondence.

After a request has been received, NES will correspond with the examinee and may schedule an alternative test date. NES will inform examinees of the test center, day, and time as soon as these have been determined. ALTERNATIVE TEST DATES MAY NOT BE AVAILABLE AT ALL TEST CENTERS.

How Results Are Reported

Examinee Score Report

Included in your registration fee is payment for one score report, which will be mailed to you about 12 weeks after the test date. For your protection, scores will not be released over the telephone or in person.

Your examinee score report will show your score on the examination and will indicate whether you passed the TMTE.

Score Reports to the TEA

A report of your score will be sent automatically to the TEA. If you do not wish to have your score sent, you may cancel your score, as described on this page.

Upon receiving test scores, the TEA may review examinee eligibility and may cancel test scores if examinees are found to be ineligible according to the criteria listed on page 32.

Your score on the TMTE will not be sent to district or school offices or to any other destination except the TEA and yourself.

Duplicate Examinee Score Report

If you would like an extra copy of your score report, you may obtain one by completing the Duplicate Examinee Score Report Request Form on page 43 of this manual.

Standard delivery. The fee for duplicate score reports is $15, which includes standard delivery. If your request form is received at NES before the test administration, you should receive the duplicate report at the same time you receive your regular score report, about 12 weeks after the administration. If NES receives your request after the administration but before regular score reports have been sent out, you should receive the duplicate report about a month after you receive your regular report. If your request is received after score reports have been sent out, you should receive your duplicate report about a month after NES receives your request.

Expedited delivery. If, after you receive your regular score report, you would like a duplicate report more quickly than via standard delivery, you may request expedited delivery service, which costs $25, payable by money order only. Your request will be processed within two days of receipt. Score reports will be sent via an express mail service. This service is available only after regular score reports have been sent out.

Requests not accompanied by the appropriate fee will be returned.

Canceling Your Score

If you wish to cancel your score on the examination, you must send a written request to NES postmarked within seven days after the test administration. The request must include your:

- name and signature
- social security number
- examinee number
- date of birth
- test date

Score cancellation forms will also be available at the test center on the day of the test. If you choose to cancel your score, you will not receive a refund or credit of any kind.

After a score is canceled at your request, all record of your test responses on that test date will be destroyed and you will not be able to have your score for that test date reported.

Score Verification Service

The multiple-choice questions of the TMTE are scored by computer. If you follow directions and mark the answer document properly, the computer scoring process is virtually error-free. However, if you believe that your score on the multiple-choice section is incorrect and want it checked, you may request the score verification service.

Score verification does not apply to written assignments. All responses for the written assignments are scored according to standardized procedures during scoring sessions held immediately after each test administration. Scorers receive detailed training before the scoring session. As part of the scoring process, written assignments are scored by more than one reader and, therefore, have already been rescored.

The form for requesting verification of your answers on the multiple-choice section of the TMTE may be obtained from NES. The score verification service is available for the six-month period following the administration date. The fee for this service is $25.

TABLE 2
TEACHING AREAS FOR WRITTEN ASSIGNMENT RESPONSES

The written assignment responses you complete will be scored by Texas teachers in the teaching area you designate. Below is a list of the teaching areas established for the TMTE. Review the teaching areas to find the one that covers the teaching assignment on the basis of which you wish to be scored.

Although you may have a number of different assignments, certificates, and endorsements, you should indicate on the registration form the ONE teaching area that represents the perspective from which you wish to answer, and be scored on, the written assignments.

In Box 9 of the registration form, indicate the three-digit number from the list below that corresponds to the teaching area you select.

Elementary, Grades Pre-Kindergarten to 6

201 Bilingual
202 Early Childhood (Pre-Kindergarten and Kindergarten)
203 Elementary (Self-Contained or Departmentalized)
204 Elementary Art
205 Elementary Music
206 Elementary Physical Education
207 English as a Second Language

Special Education (Elementary and Secondary)

301 Generic Special Education (i.e., Learning Disabled and Mentally Retarded)
302 Hearing Impaired
303 Severely Emotionally Disturbed
304 Severely and Profoundly Handicapped
305 Speech/Language Therapy
306 Visually Impaired

Secondary, Grades 7 to 12

English/Language Arts
401 English
402 English as a Second Language
403 Journalism
404 Reading
405 Speech

Languages Other Than English
409 Arabic
410 Chinese
411 Czech
412 French
413 German
414 Hebrew
415 Italian
416 Japanese
417 Latin
418 Portuguese
419 Russian
420 Sign Language
421 Spanish

Mathematics
425 Mathematics

Science
430 Biology
431 Chemistry
432 Earth Science
433 Environmental Science
434 Life Science
435 Physical Science
436 Physics

Health
440 Health Education

Physical Education
444 Dance
445 Physical Education

Fine Arts
448 Art
449 Dance
450 Music
451 Theatre Arts

Social Studies
455 Economics
456 Geography
457 Government
458 History
459 Psychology
460 Sociology

Business Education
464 Business Education
465 Career Investigation
466 Computer Programming/ Microcomputer Applications
467 Secretarial Business

Vocational Education
473 Agriculture Science and Technology
474 Health Occupations Education
475 Industrial Technology Education (Industrial Arts)
476 Marketing Education
477 Office Education
478 Trade and Industrial Education
479 Vocational Home Economics

Computer Education
485 Computer Literacy
486 Computer Science

Texas Master Teacher Examination (TMTE™)
CHANGE REQUEST FORM

DO NOT WRITE IN THIS SPACE

IMPORTANT: Completion of this form signifies that you are changing your TMTE registration.

Mail to: TMTE
National Evaluation Systems, Inc.
P.O. Box 140286
Austin, TX 78714-0286

Mailing address for express mail services ONLY:

TMTE
National Evaluation Systems, Inc.
2621 Ridgepoint Drive
Suite 240
Austin, TX 78754

1. **Name:**

Last First Middle Initial

2. **Social Security Number:** ___-___-____

3. **Examinee Number:**

4. **Date of Birth:**

Month Day Year

Indicate below the change(s) you wish to make in your registration. You may change your test date and/or test center. Please verify by using Table 1 on page 33 that there is a test administration at the test center and on the test date to which you are changing.

The fee for changing your registration is $50, payable to National Evaluation Systems, Inc. Payment must be enclosed with this form. Your form and payment must be **received at the address above before the end of the late registration period** for the test date you wish to change from or to, whichever comes first. See the front cover for the registration schedule.

A. Change of Test Date

From: _____
(Write Date)

To: _____ November 10, 1990
_____ June 8, 1991
_____ Fall 1991*
_____ Spring 1992*

B. Change of Test Center (see Table 1, page 33)

From: _____ Code _____ Location

To: _____ Code _____ Location

*NOTE: Test dates for fall 1991 and spring 1992 have not been determined. If you request a change to one of these dates, you will be sent a 1991–1992 Preparation and Registration Manual and registration form when they are available. These materials will contain the actual administration dates and available test centers. You will have to complete the registration form in order to confirm your registration.

Your Change Request Form cannot be processed without proper payment ($50 to National Evaluation Systems, Inc.) and your signature below. Please write your social security number on your check or money order.

I authorize NES to change my registration as indicated above.

_____ Signature

_____ Date

"TMTE," "Texas Master Teacher Examination," and the "TMTE" logo are trademarks of the Texas Education Agency and National Evaluation Systems, Inc. (NES®).

Texas Master Teacher Examination (TMTE™)
WITHDRAWAL REQUEST FORM

DO NOT WRITE IN THIS SPACE

IMPORTANT: Completion of this form signifies that you are withdrawing your TMTE registration.

Mail to: TMTE
National Evaluation Systems, Inc.
P.O. Box 140286
Austin, TX 78714-0286

1. **Name:**

Last First Middle Initial

2. **Social Security Number:** ___ - ___ - ____

3. **Examinee Number:**

4. **Date of Birth:** Month Day Year

Please indicate the TMTE administration from which you are requesting to withdraw your registration. You will receive a $75 refund if your request is postmarked by the regular registration deadline.

_____ November 10, 1990
(Withdrawal deadline is September 21, 1990.)

_____ June 8, 1991
(Withdrawal deadline is April 19, 1991.)

Your Withdrawal Request Form cannot be processed without your signature below.

I authorize NES to withdraw my registration as indicated above.

Signature _____ Date _____

"TMTE," "Texas Master Teacher Examination," and the "TMTE" logo are trademarks of the Texas Education Agency and National Evaluation Systems, Inc. (NES®).

Texas Master Teacher Examination (TMTE™)
DUPLICATE EXAMINEE SCORE REPORT REQUEST FORM

DO NOT WRITE IN THIS SPACE

IMPORTANT: Use this form to request a duplicate of your score report. This is in addition to the one you automatically receive after the test date.

Mail to: TMTE
National Evaluation Systems, Inc.
P.O. Box 140286
Austin, TX 78714-0286

1. **Social Security Number:** ☐☐☐ - ☐☐ - ☐☐☐☐ 2. **Date of Birth:** ☐☐ ☐☐ ☐☐ (Month Day Year)

3. **Name:**
Last ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ First ☐☐☐☐☐☐☐☐ Middle Initial ☐

4. **Address:** ☐ Check here if this is a change from the address you provided on your original registration form.
Post Office Box or Street Address ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

TEST DATE	REGULAR REGISTRATION DEADLINE (POSTMARK DATE)	LATE REGISTRATION DEADLINE ("RECEIVED BY" DATE)
November 10, 1990	September 21, 1990	October 19, 1990
June 8, 1991	April 19, 1991	May 17, 1991

For questions about TMTE policies,
call the Texas Education Agency at (512) 463-9525.

For questions about TMTE registration,
call National Evaluation Systems, Inc., at (512) 926-0468.

This manual contains important test preparation information, registration information, and forms. You are advised to keep it for use as a reference.

BEST COPY AVAILABLE

TMTE™ TEXAS MASTER TEACHER EXAMINATION

REGISTRATION FORM 1990-91

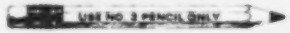
Printed in U.S.A.

Mark Reflex® by NCS EP-39339-321

GENERAL DIRECTIONS

Please read the registration instructions in the manual before completing both sides of this form.

This form will be machine processed and may be returned to you if it is not completed properly or if the correct fee is not enclosed. For your information to be recorded accurately, please:



1. Use a No. 2 soft lead pencil (not ink) to print information in the boxes.
2. Completely fill in the ovals corresponding to the letters and numbers you printed.
3. Check the accuracy of the ovals you filled in, and erase any errors completely.

Sample Marks

Right	Wrong
(A) (B) (●) (D)	(A) (↻) (⊗) (○)

1. NAME—Omit hyphens, apostrophes, Jr., II, etc.

Last Name—first 15 letters	First Name—first 8 letters	MI

2. ADMISSION TICKET MAILING ADDRESS

P.O. Box or Street Address	City	State Code	Zip Code

3. ETHNICITY

(1) American Indian or Alaskan Native

(2) Black (not of Hispanic origin)

(3) Hispanic

(4) Asian or Pacific Islander

(5) White (not of Hispanic origin)

(6) Other

4. SEX

( ) Female

( ) Male

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5. SOCIAL SECURITY NUMBER

If you do not include your social security number here, your form may be returned to you. The accuracy of your social security number is essential. Please check it carefully.

6. DATE OF BIRTH

Month	Day	Year
○ Jan		
○ Feb		
○ Mar	0 0	0 0
○ Apr	1 1	1 1
○ May	2 2	2 2
○ Jun	3 3	3 3
○ Jul	4 4	4 4
○ Aug	5 5	5 5
○ Sep	6 6	6 6
○ Oct	7 7	7 7
○ Nov	8 8	8 8
○ Dec	9 9	9 9

TMTE™ TEXAS MASTER TEACHER EXAMINATION

REGISTRATION FORM 1990-91

7. TEST DATE

○ November 10, 1990

○ June 8, 1991

8. TEST CENTER WHERE YOU WANT TO TAKE THE TMTE

Enter the codes for your two test center choices and fill in the corresponding ovals. See the TMTE Preparation and Registration Manual p. 33, Table 1.

1st Choice | 2nd Choice

9. TEACHING AREA

See Table 2 on p. 38 of the TMTE Preparation and Registration Manual. The accuracy of this information is critical; your written assignments will be scored according to the ovals you fill in here.

10. FEES AND PAYMENT

A

Fill in the ovals next to the fee(s) that apply to you.

FEES

○ Test Fee $145

○ Late Registration Fee $50

B

Enter the dollar amount of the fee(s) that apply to you. Enter one number in each box.

$

$

C

Add the fees to get the total. Total: $

D

Fill in ovals for the total.

Total: $

E

Make check or money order payable to NES. (Include your social security number on the check or money order.)

DO NOT SEND CASH.

National Evaluation Systems, Inc., cannot be held responsible for loss of cash payments. Refer to the registration instructions for methods of payment.

11. SIGNATURE

I hereby agree to the conditions set forth in the 1990-91 TMTE Preparation and Registration Manual. I certify that I am eligible to take the TMTE and that I am the person whose name appears on this TMTE Registration Form. I understand that I will not be permitted to take the examination or receive a score unless I have signed this document.

Signature_____ Date_____

12. You must write the following statement in your own handwriting or you will not be permitted to take the examination or receive a score.

"I certify that I am eligible to take the TMTE and that I am the person whose name and signature appear on this form"

_____

_____

_____

_____

FOR OFFICE USE ONLY
Do not write in this space

SA	P	
0 0	0 0 0	○ LT
1 1	1 1 1	
2 2	2 2 2	○ CA
3 3	3 3 3	○ PC
4 4	4 4 4	○ MO
5 5	5 5 5	○ PO
6 6	6 6 6	○ CC
7 7	7 7 7	
8 8	8 8 8	
9 9	9 9 9	

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